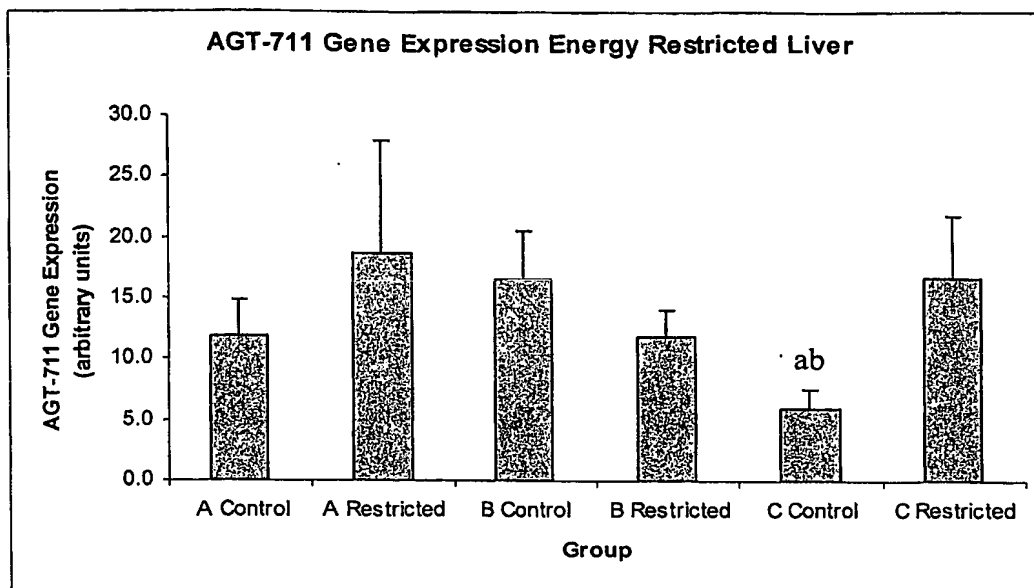


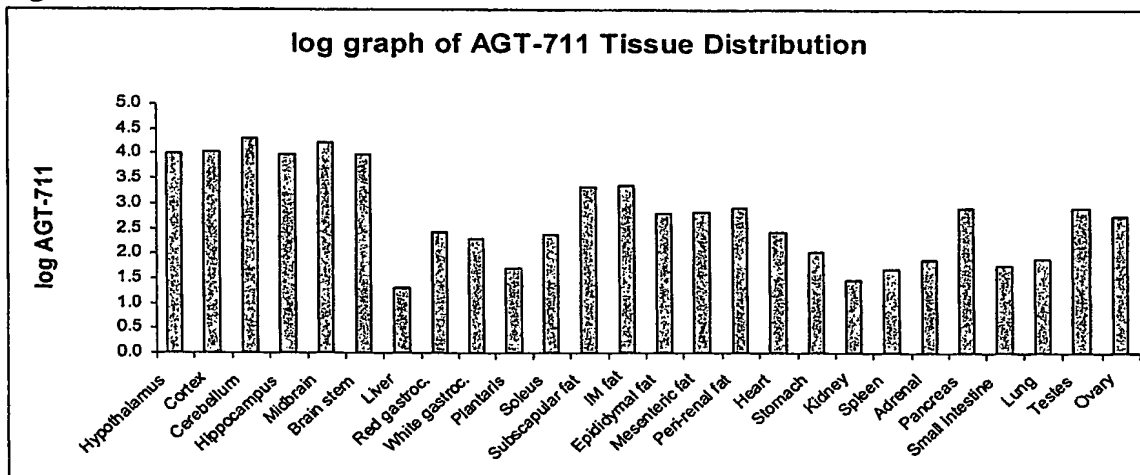
Figure 1:



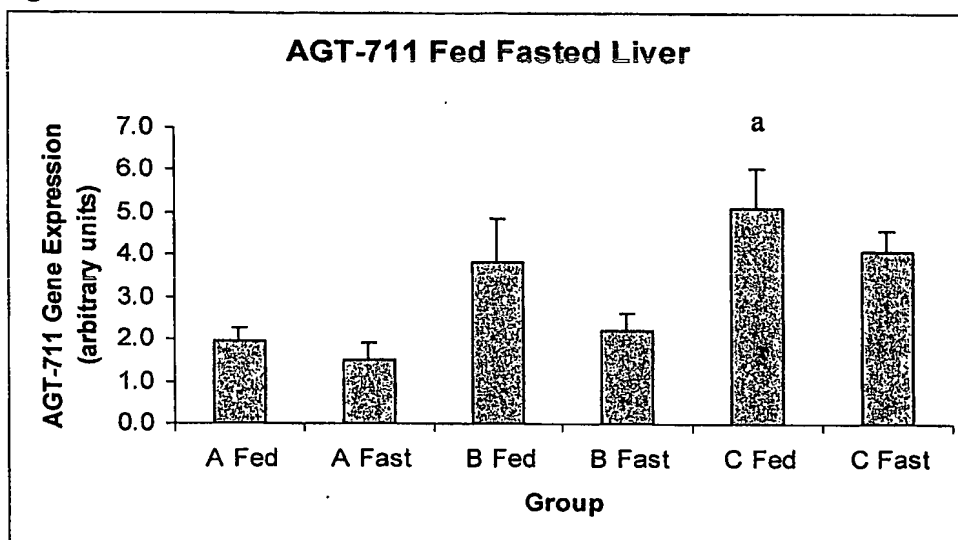
a: $p=0.024$ compared to group B control.

b: $p=0.008$ compared to group C restricted.

Figure 2:



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Figure 3:

a: $p=0.019$ compared to group A fed animals.

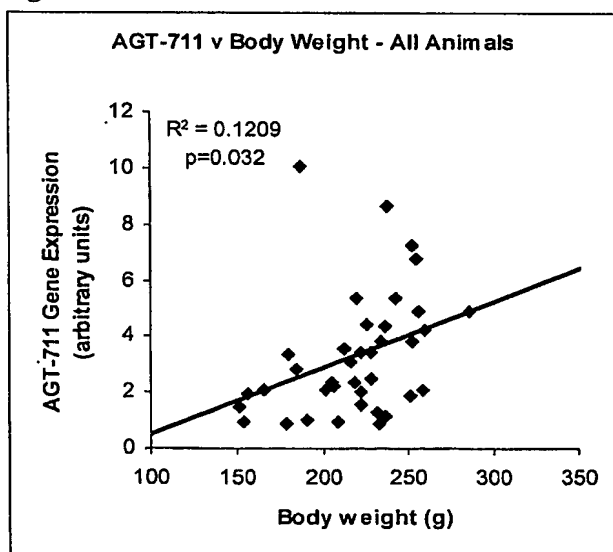
Figure 4:

Figure 5:

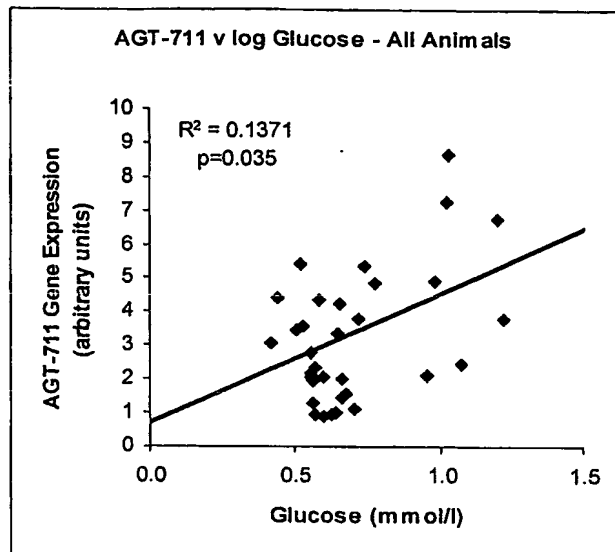


Figure 6:

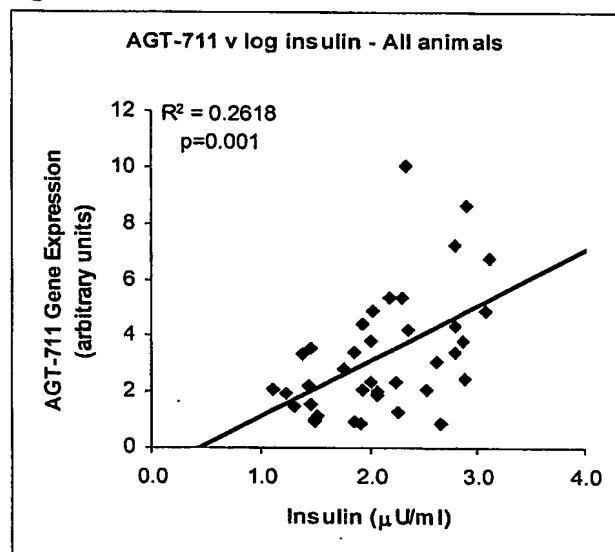
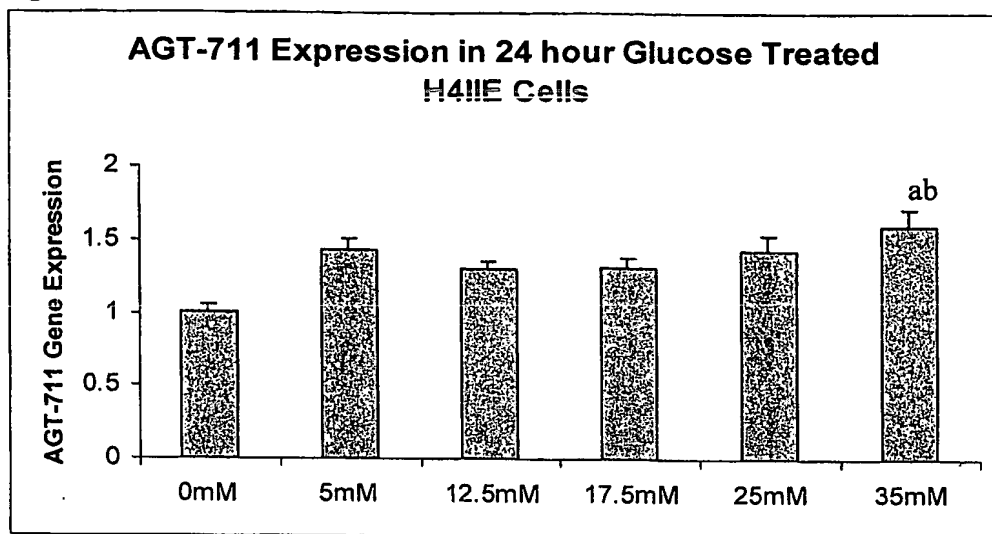


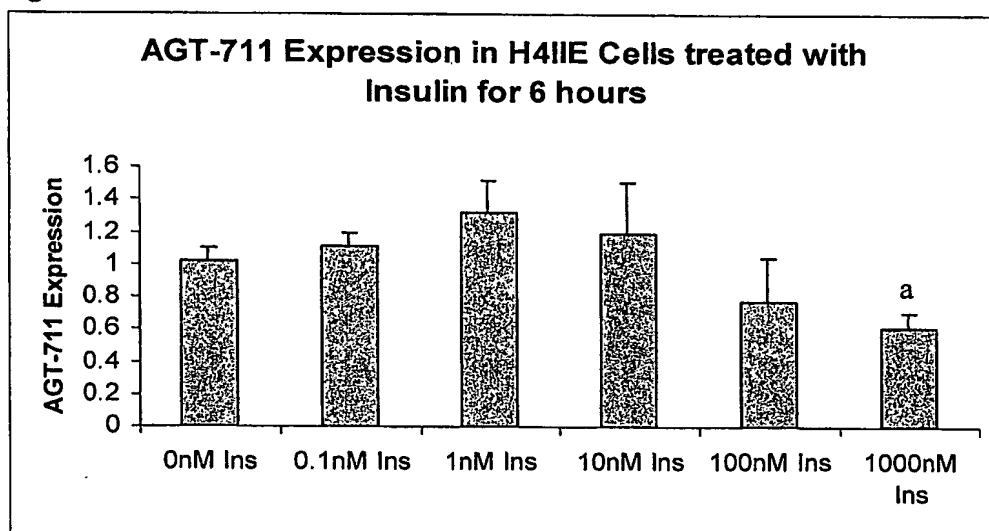
Figure 7:



a: $p=0.013$ compared to 17.5mM glucose.

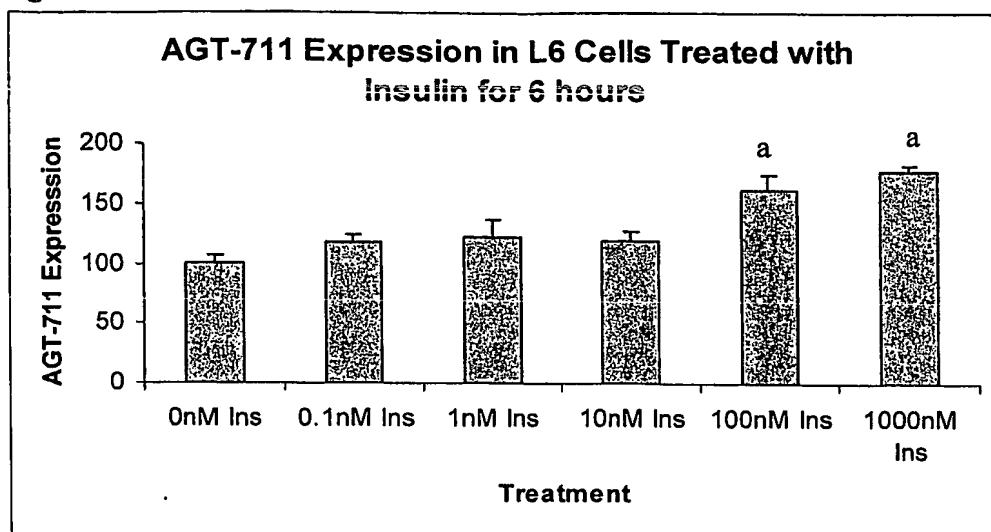
b: $p=0.020$ compared to 25mM glucose.

Figure 8:



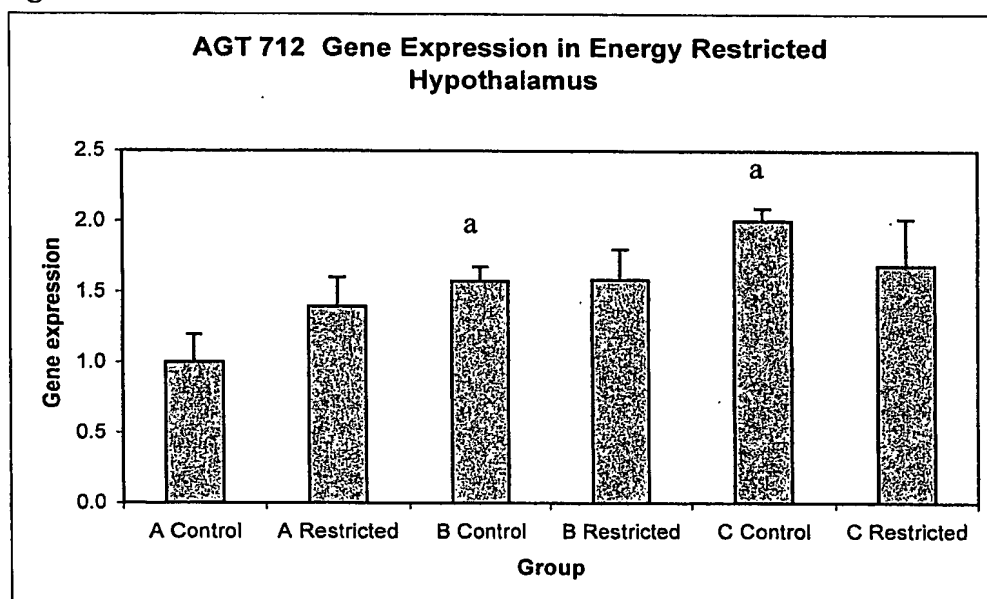
a: $p=0.044$ compared to 0.1nM insulin group.

Figure 9:

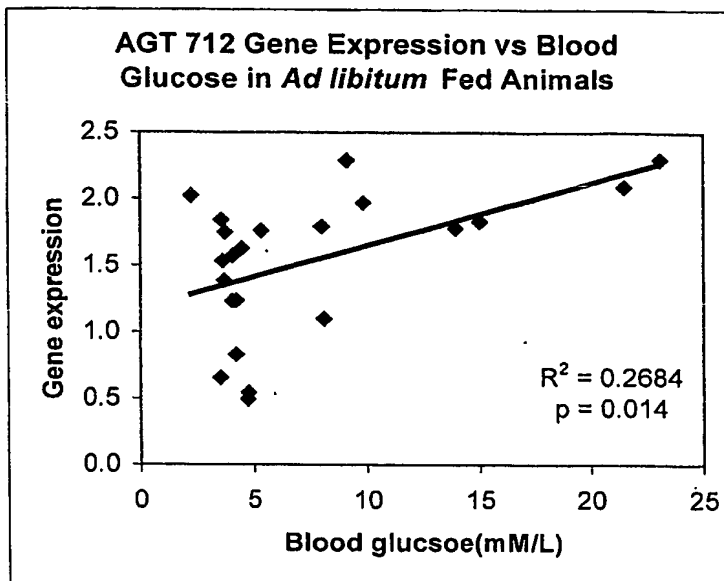


a: $p < 0.004$ compared to 0nM, 0.1nM, 1nM and 10nM insulin groups.

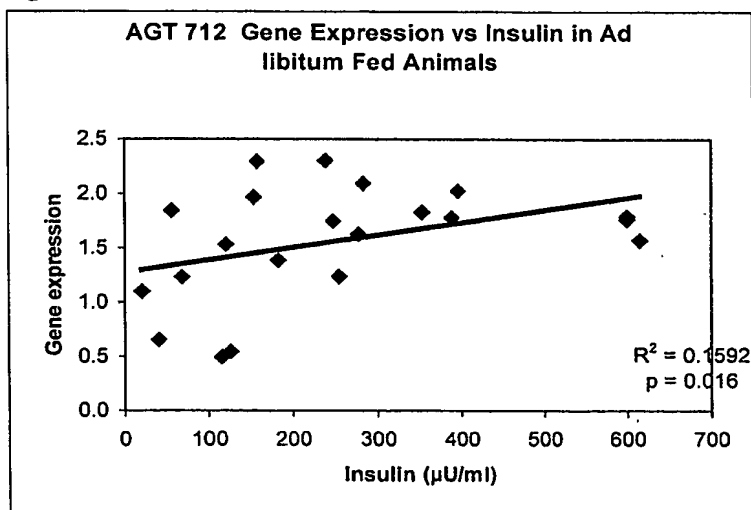
Figure 10:



a Gene expression significantly higher in B controls ($p=0.039$), C controls ($p=0.001$) when compared to A controls

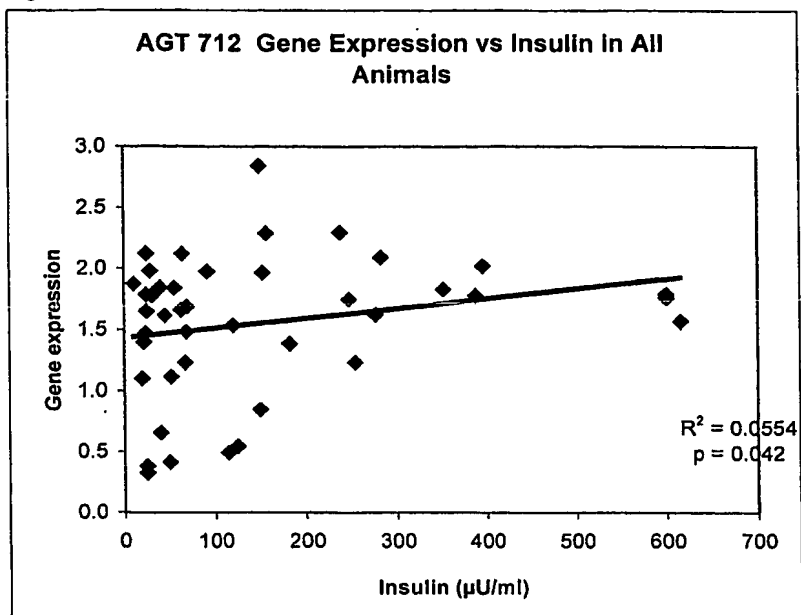
Figure 11:

AGT 712 gene expression is positively correlated with post restriction glucose in control animals ($p=0.014$)

Figure 12:

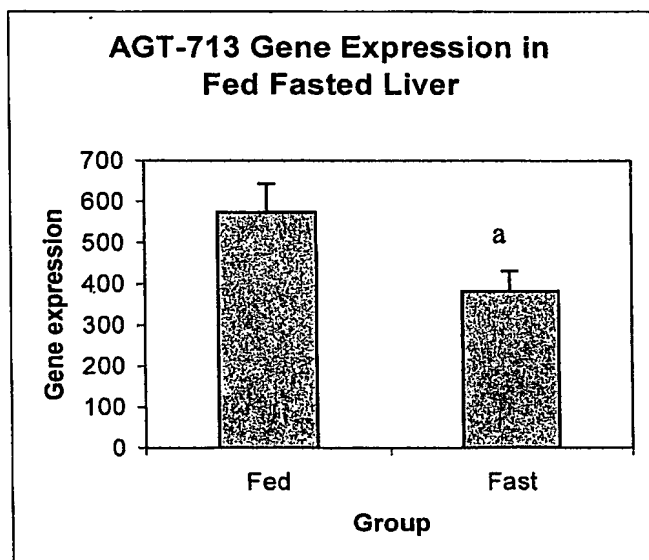
AGT 712 gene expression is positively correlated with post restriction insulin in control animals ($p=0.016$)

Figure 13:

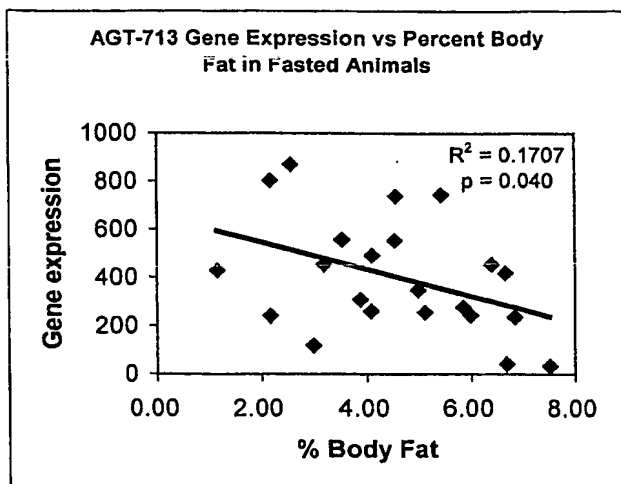
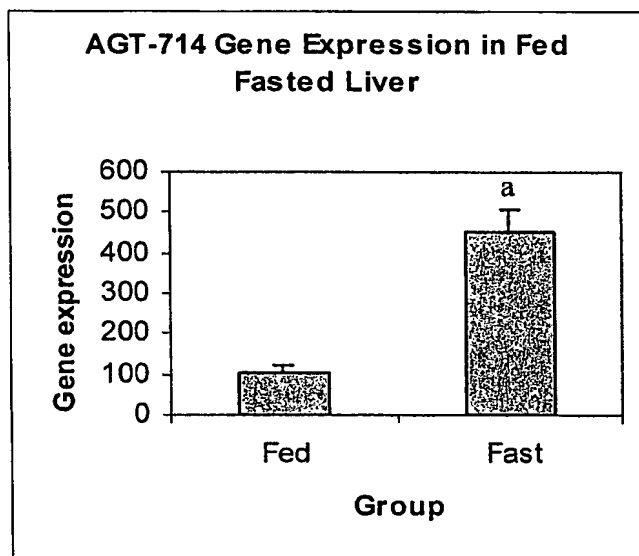


AGT 712 is Positively correlated with post restriction insulin in all animals ($p=0.042$)

Figure 14:



a: $p=0.039$

Figure 15:**Figure 16:**

a: $p < 0.0001$

Figure 17:

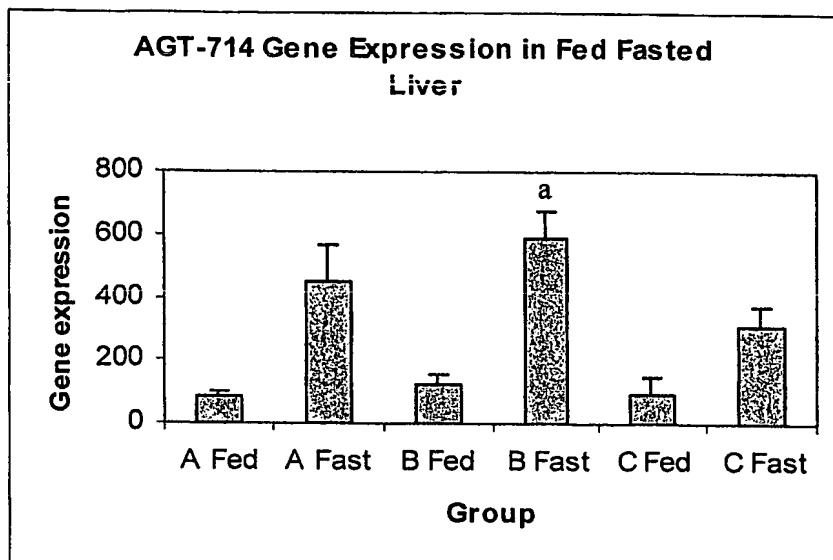
a: $p=0.005$

Figure 18:

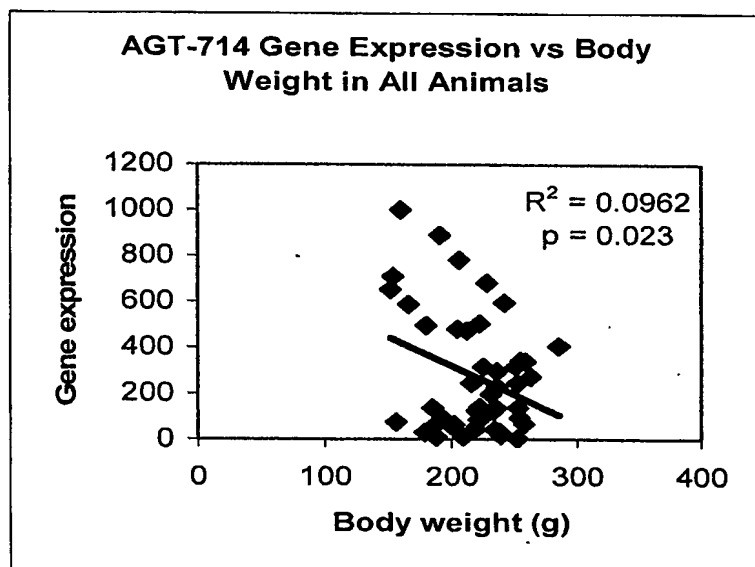


Figure 19:

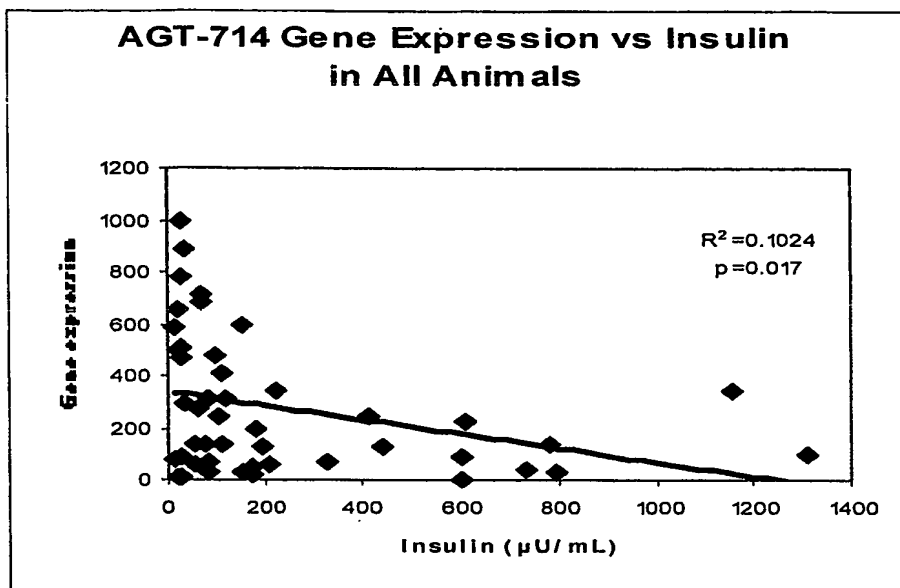
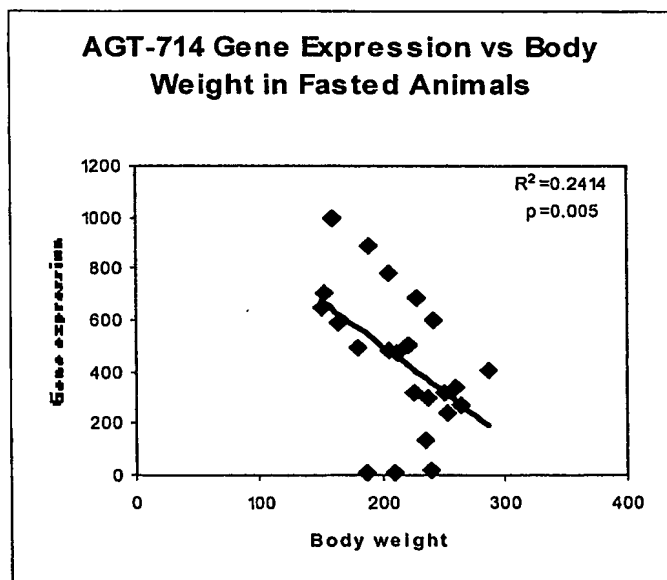


Figure 20:



11/54

Figure 21:

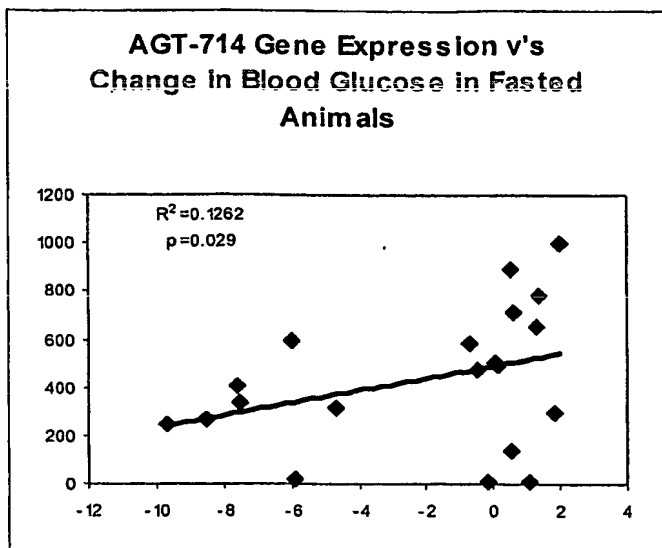


Figure 22:

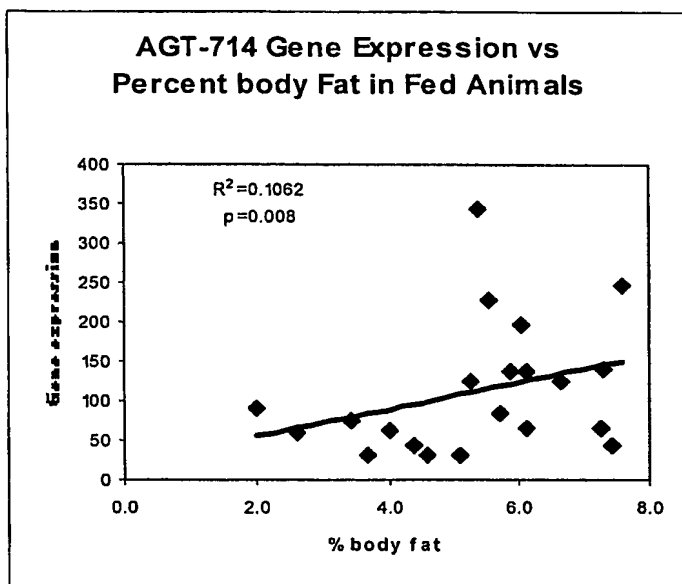
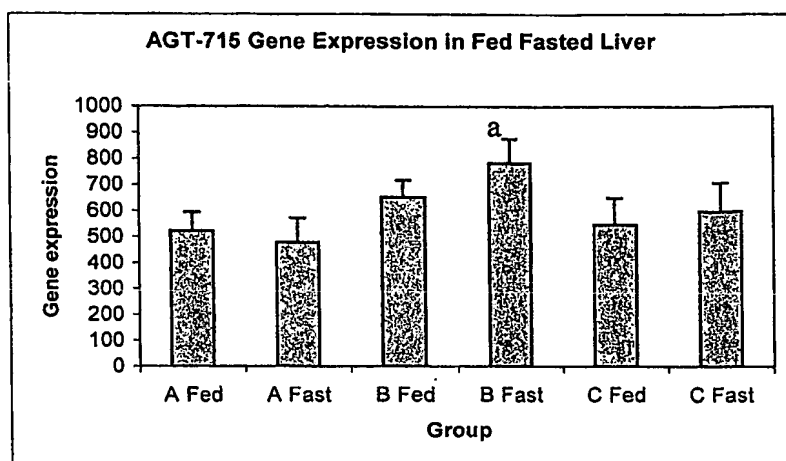


Figure 23:

a: $p=0.022$, B fasted significantly higher gene expression compared to A fasted

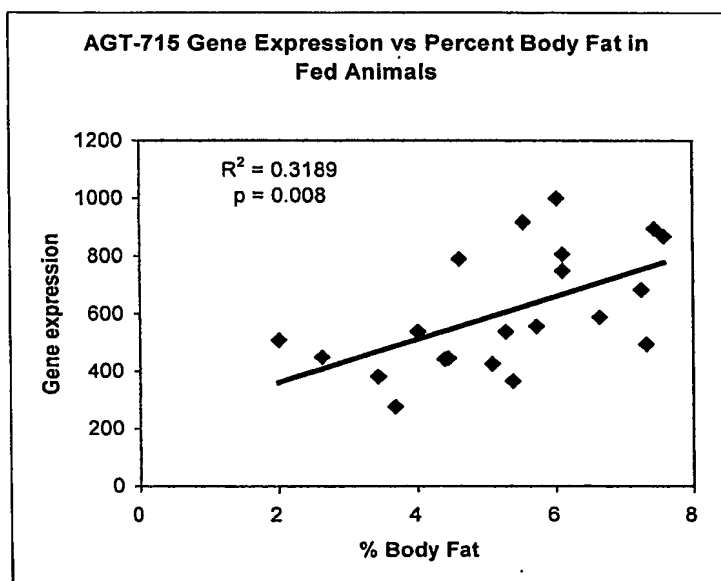
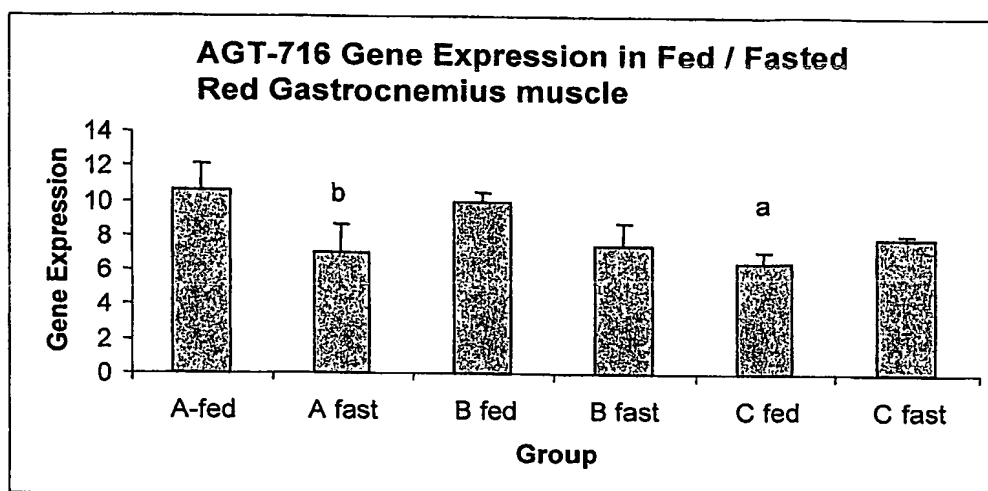
Figure 24:

Figure 25:



a: $p=0.009$, Gene expression significantly lower in Group C animals compared to Group A and B animals.

b: $p=0.02$, Gene expression significantly lower in Group A fasted animals compared to Group A fed animals.

Figure 26:

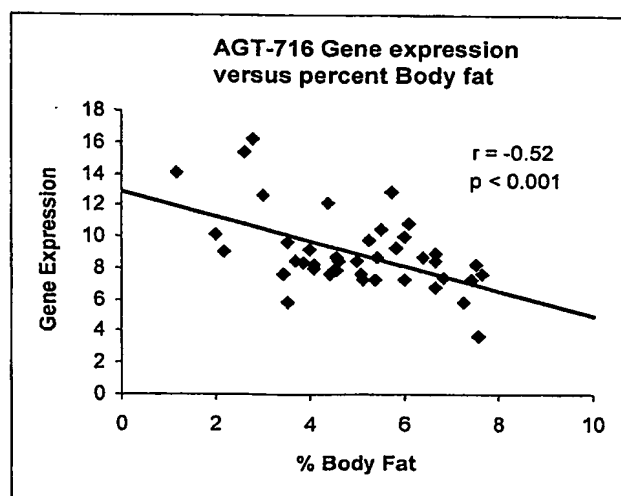


Figure 27:

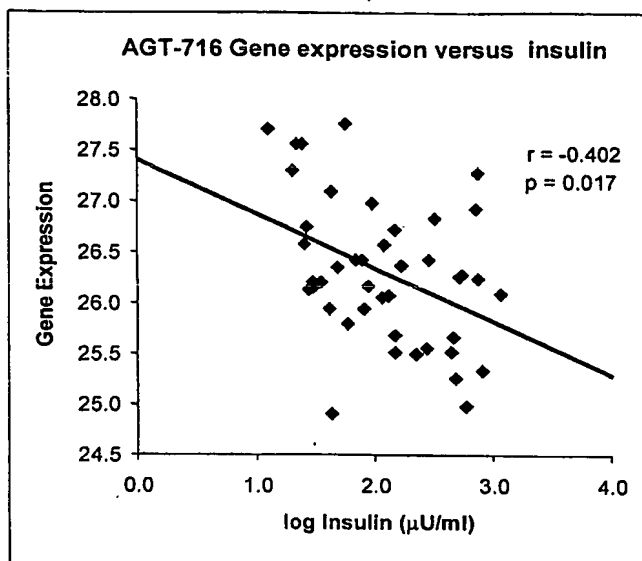
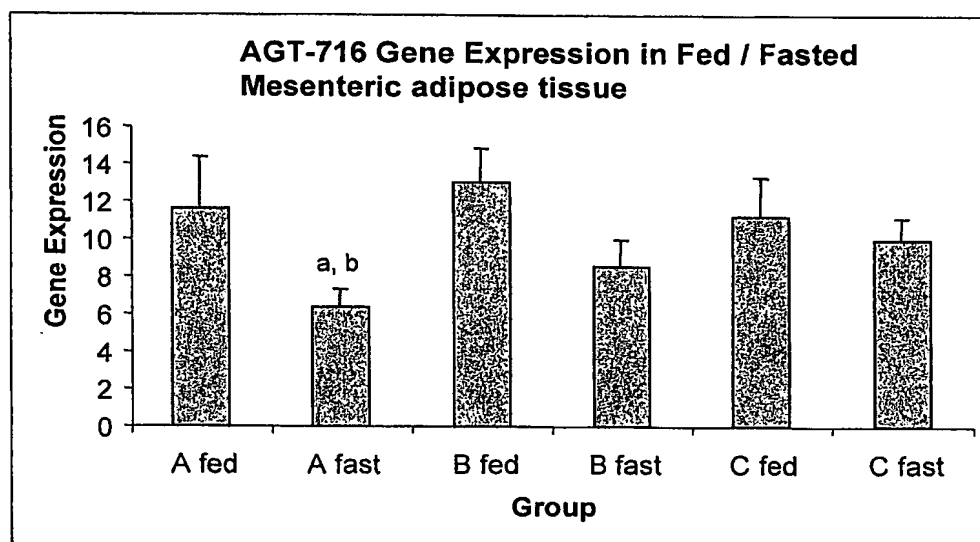
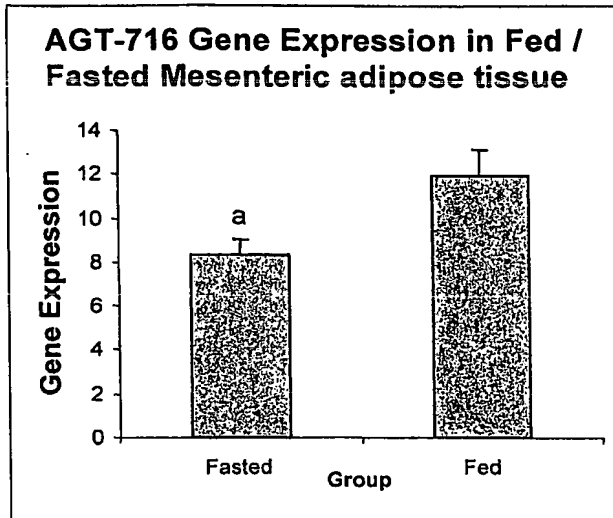


Figure 28:



a: Gene expression (mesenteric adipose tissue) significantly lower in A fasted animals when compared to A fed ($p=0.041$).

b: Gene expression (mesenteric adipose tissue) significantly lower in A fasted animals when compared to C fasted ($p=0.033$) animals.

Figure 29:

a: Gene expression (mesenteric adipose tissue) significantly lower in fasted animals when compared to fed animals ($p=0.014$).

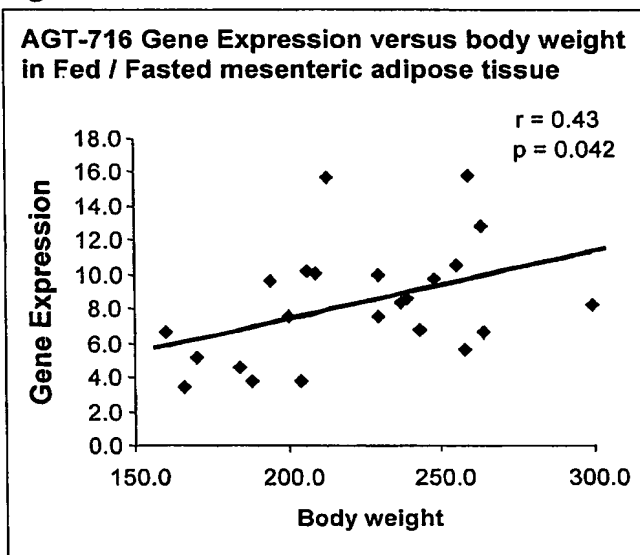
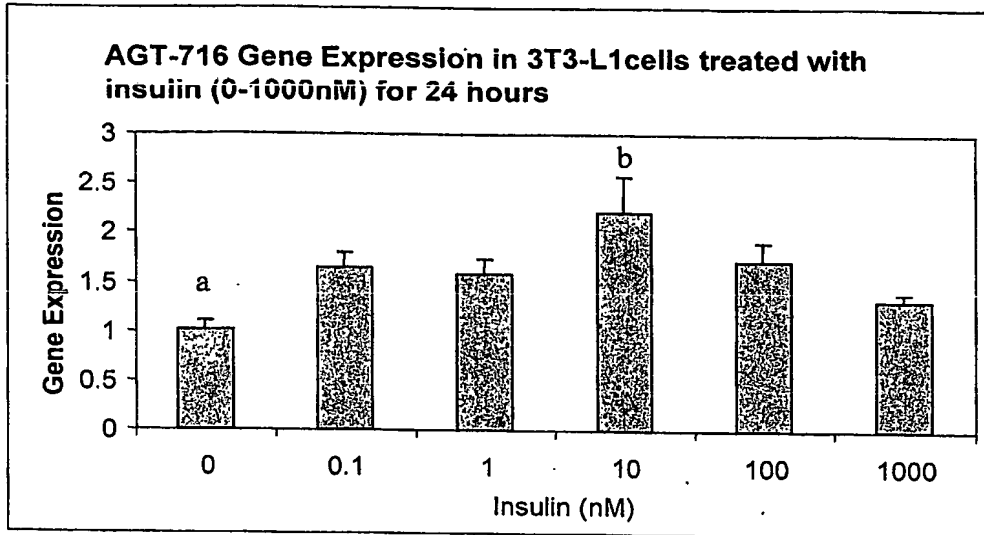
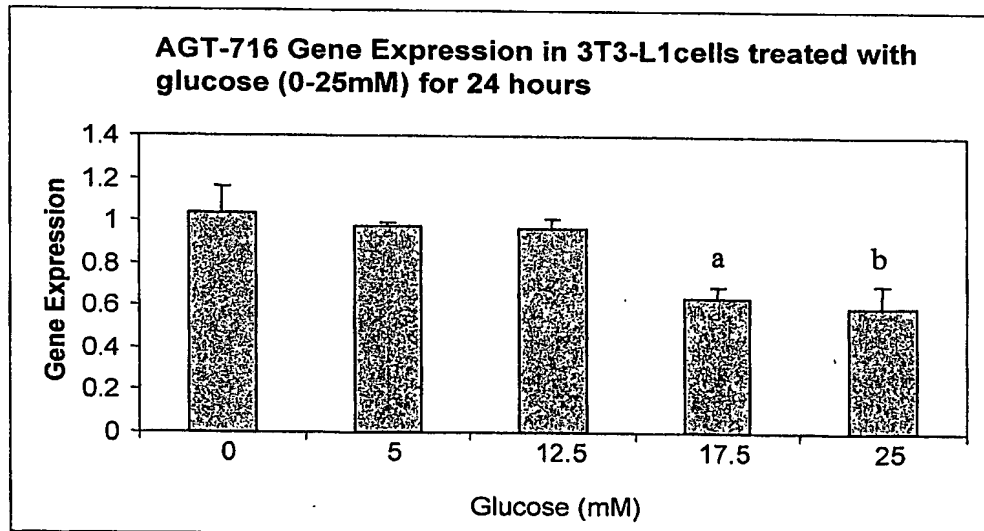
Figure 30:

Figure 31:

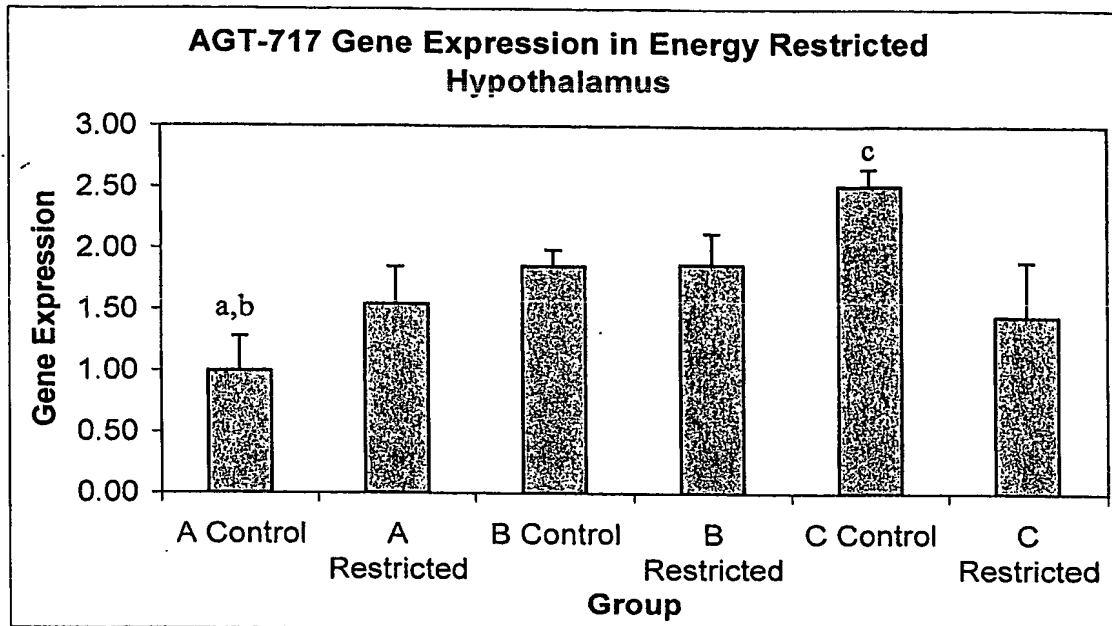
a: Gene expression (3T3-L1 cells) significantly lower in 0nM insulin treated cells when compared to 0.1nM ($p=0.028$), 1nM ($p=0.046$), 10nM ($p<0.001$) and 100nM ($p=0.017$) insulin treated groups.

b: Gene expression (3T3-L1 cells) significantly higher in 10nM insulin treated cells when compared to 0nM ($p<0.001$), 0.1nM ($p=0.046$), 1nM ($p=0.028$), 1000nM and ($p=0.003$) insulin treated groups.

Figure 32:

a: Gene expression (3T3-L1 cells) significantly lower in 17.5mM glucose treated cells when compared to 0mM ($p=0.011$), 5mM ($p=0.01$) and 12.5mM ($p=0.011$) glucose treated groups.

b: Gene expression (3T3-L1 cells) significantly lower in 25mM glucose treated cells when compared to 0mM ($p=0.025$) and 5mM ($p=0.05$) glucose treated groups.

Figure 33:

a,b: Gene expression was significantly lower in A control animals compared to B control ($p=0.027$) and C control ($p<0.001$) animals.

c: $p=0.009$, gene expression was significantly higher in C control compared to C restricted animals.

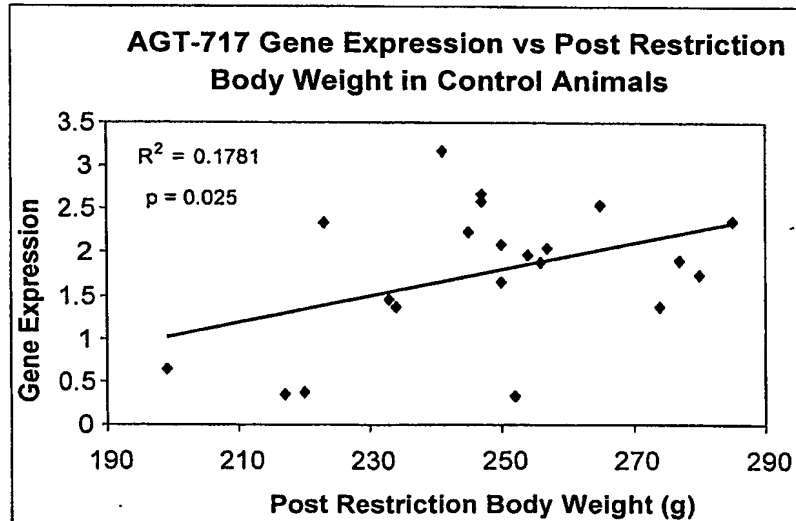
Figure 34:

Figure 35:

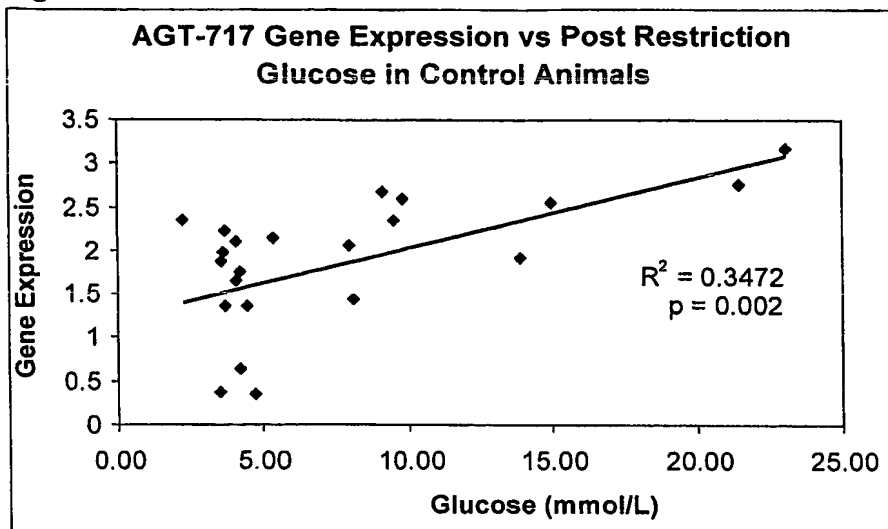


Figure 36:

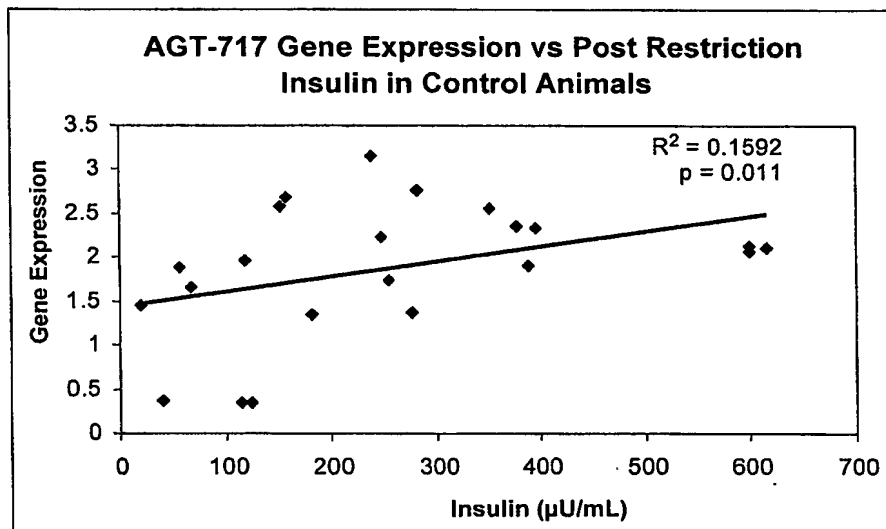


Figure 37:

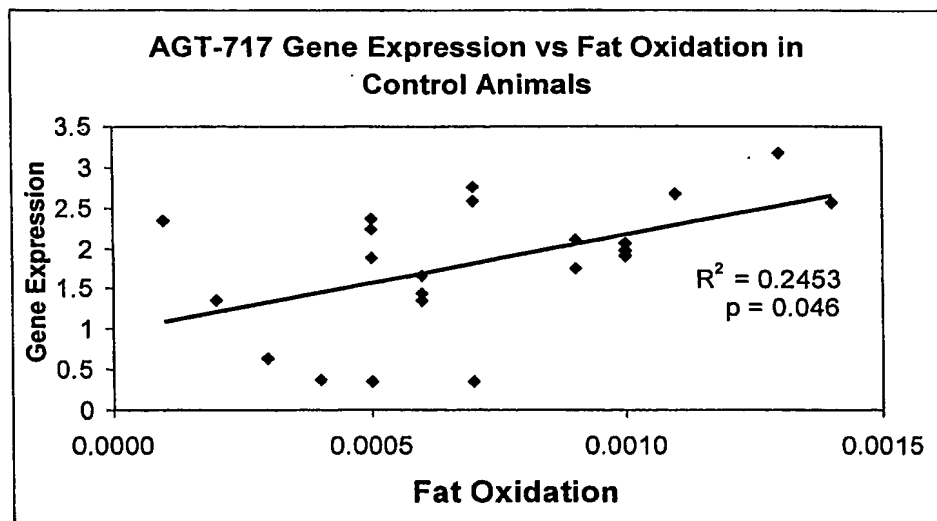
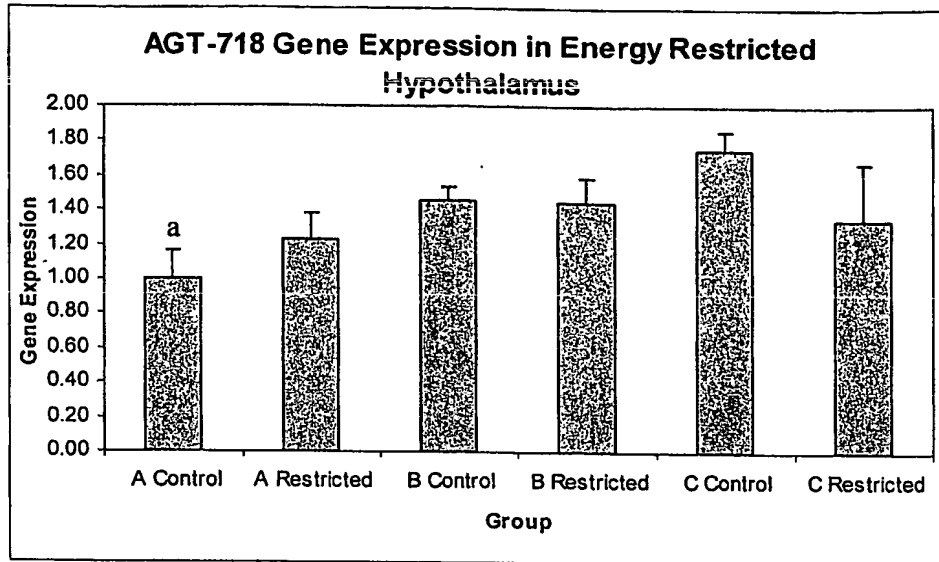


Figure 38:

a: p=0.023, A control < C control

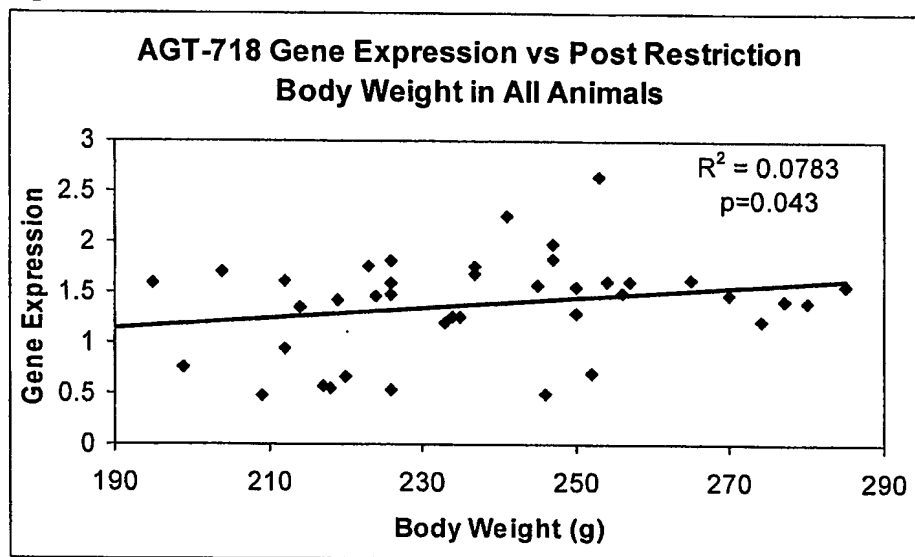
Figure 39:

Figure 40:

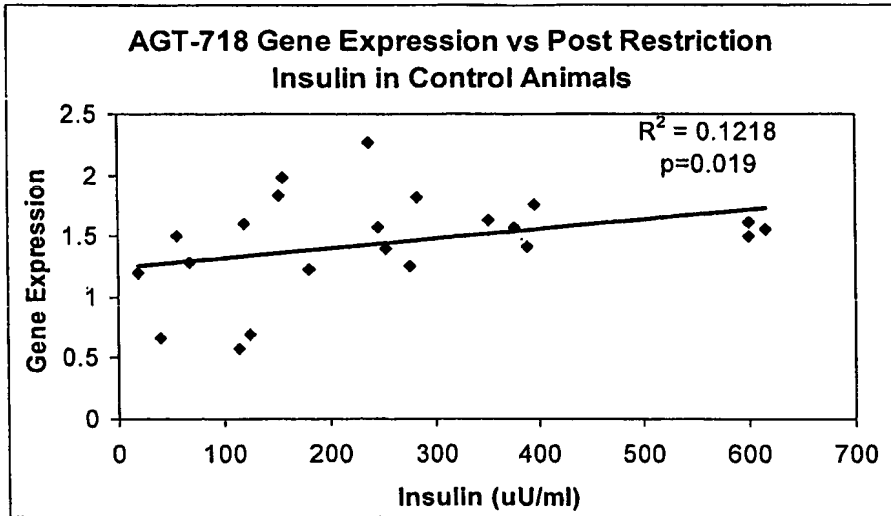


Figure 41:

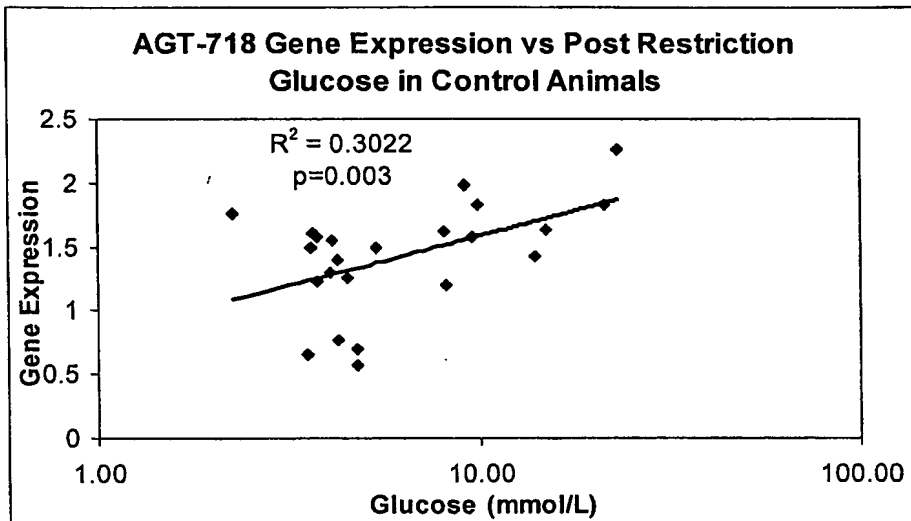


Figure 42:

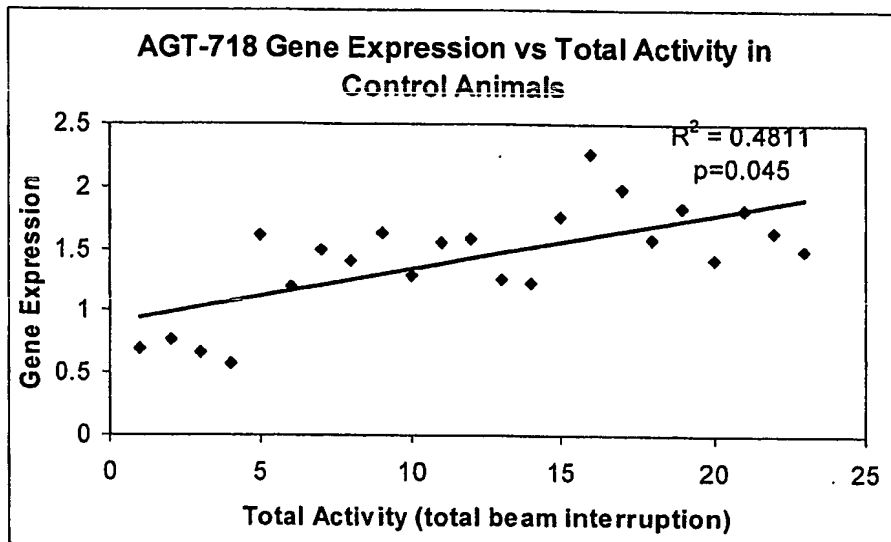


Figure 43:

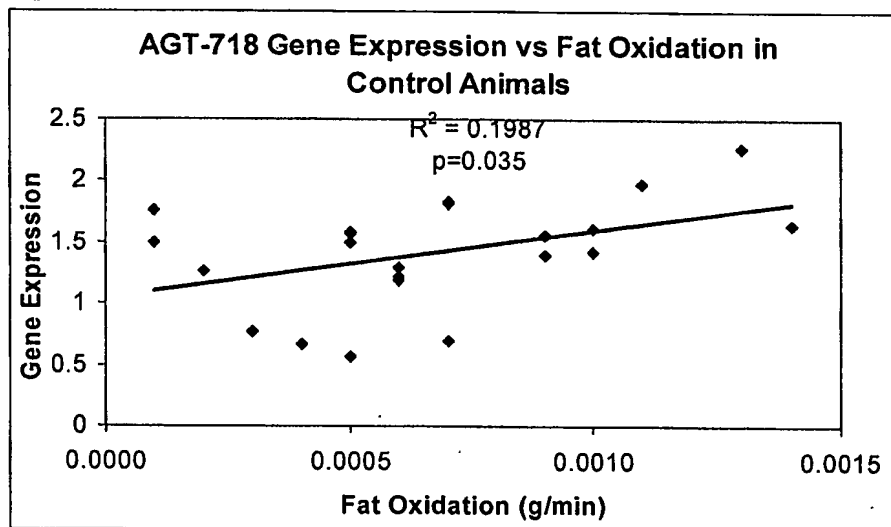
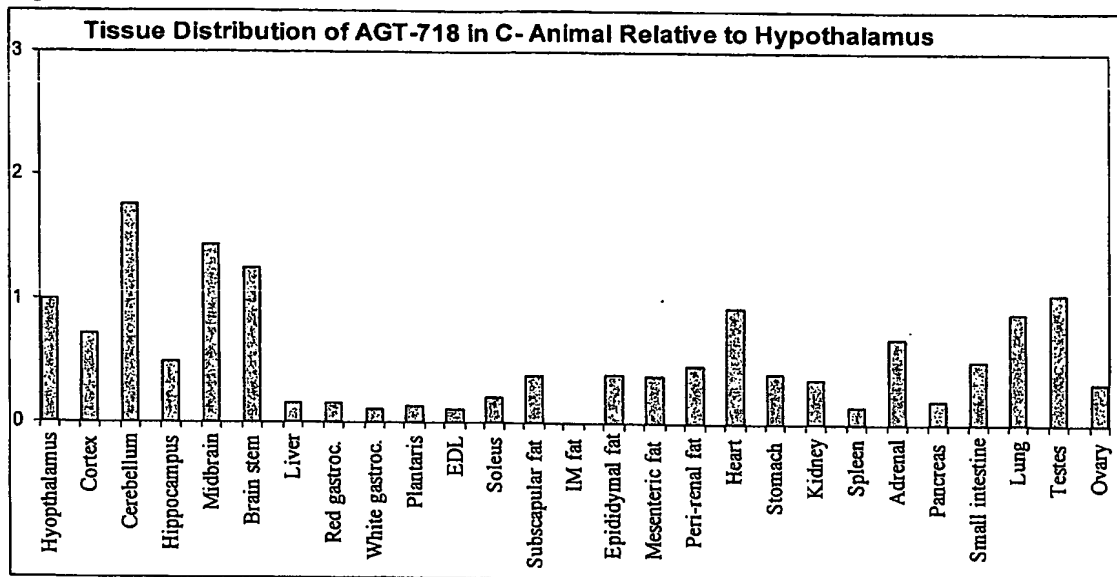
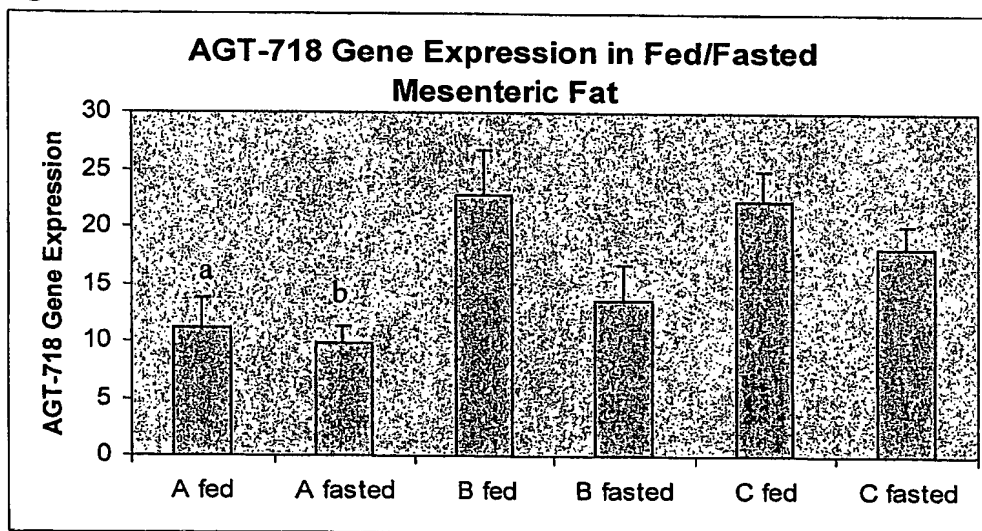
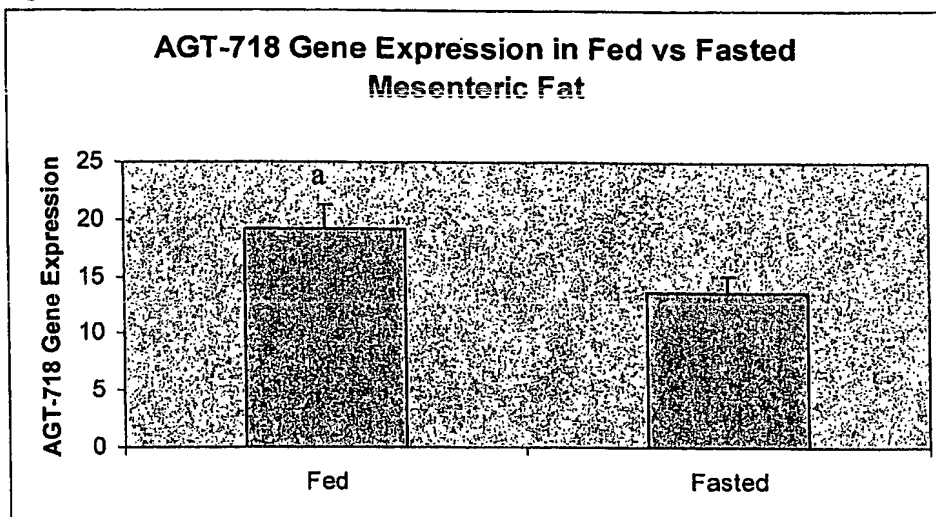


Figure 44:**Figure 45:**

a: A fed < B fed, C fed ($p=0.005, 0.007$)

b: A fasted < C fasted ($p=0.027$)

Figure 46:

a: Fed>Fasted ($p=0.038$)

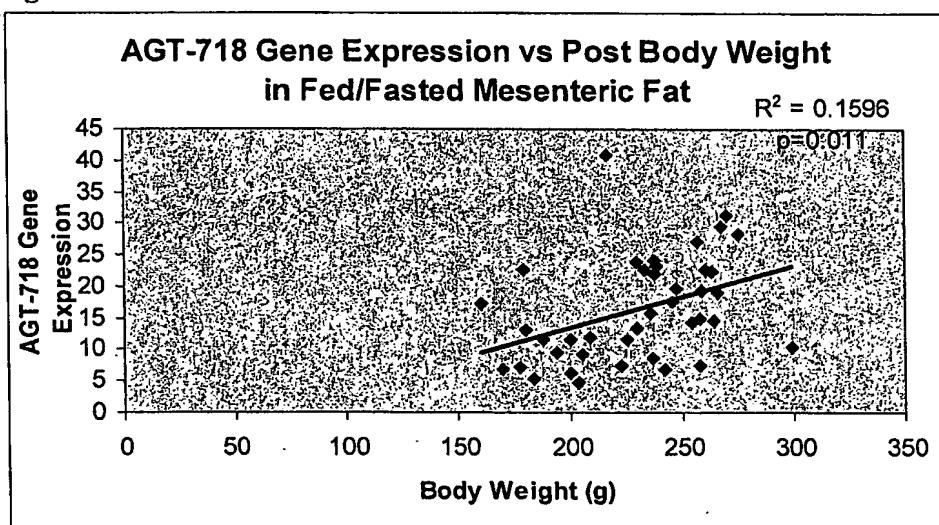
Figure 47:

Figure 48:

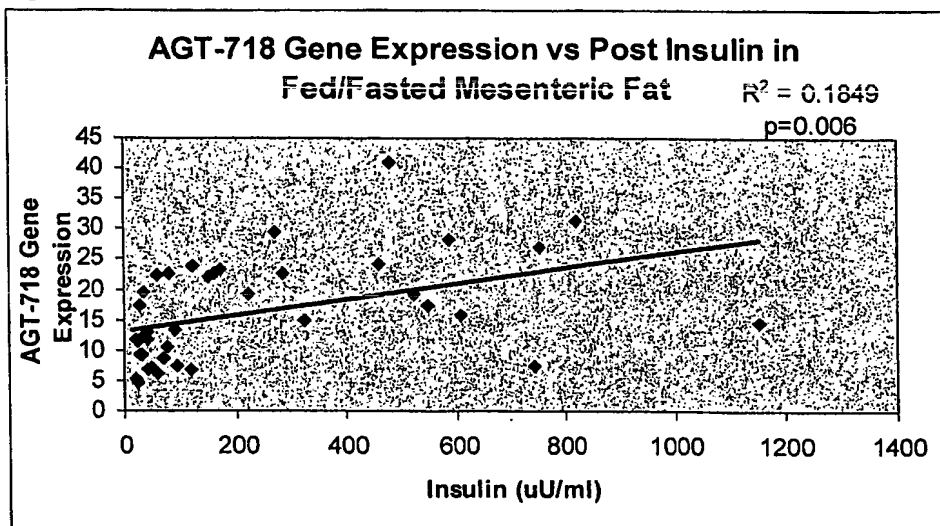


Figure 49:

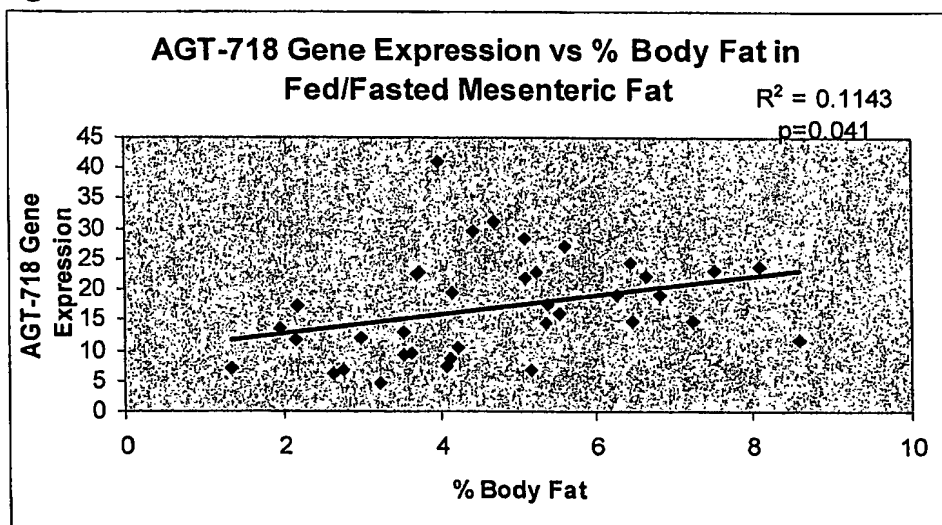
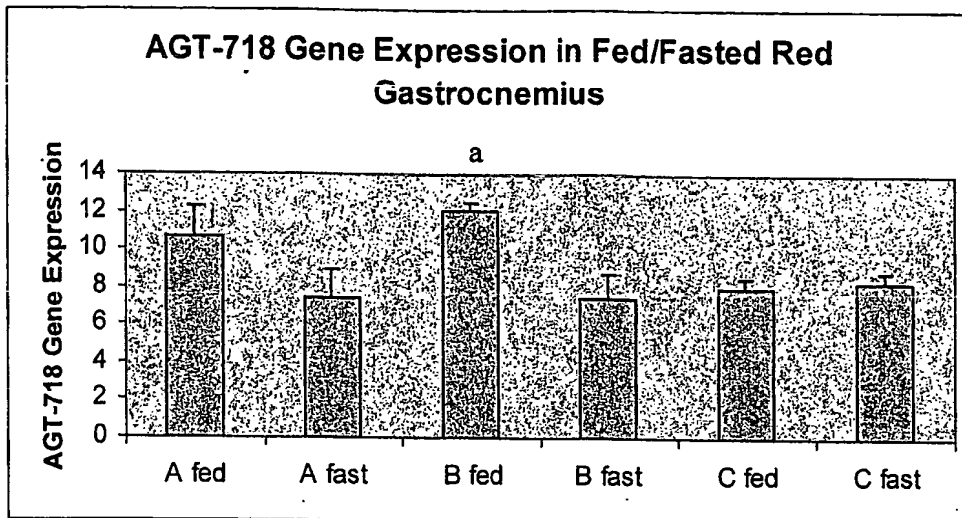
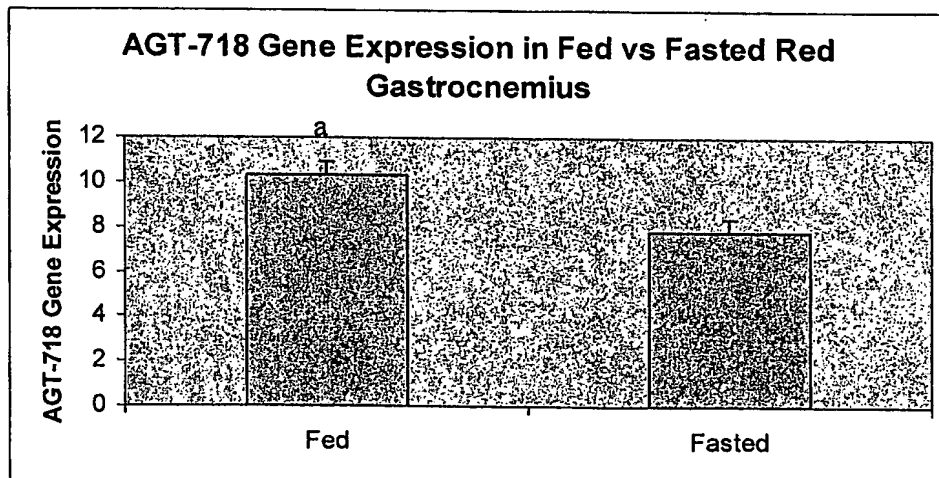


Figure 50:



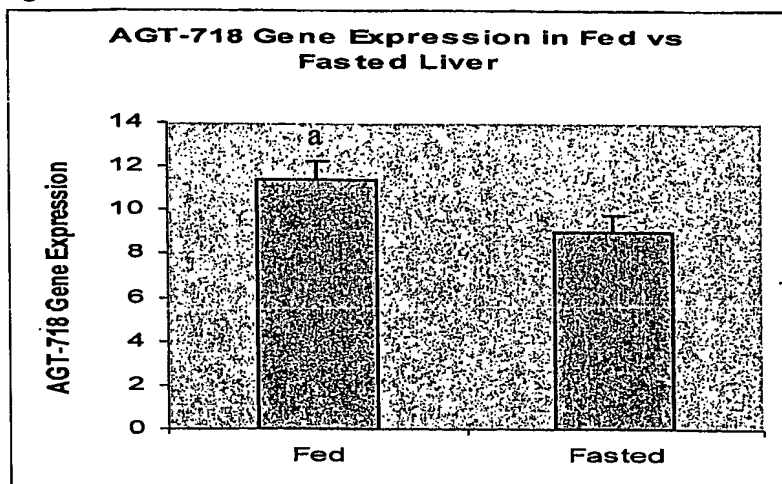
a: B fed > C fed ($p=0.001$)

Figure 41:



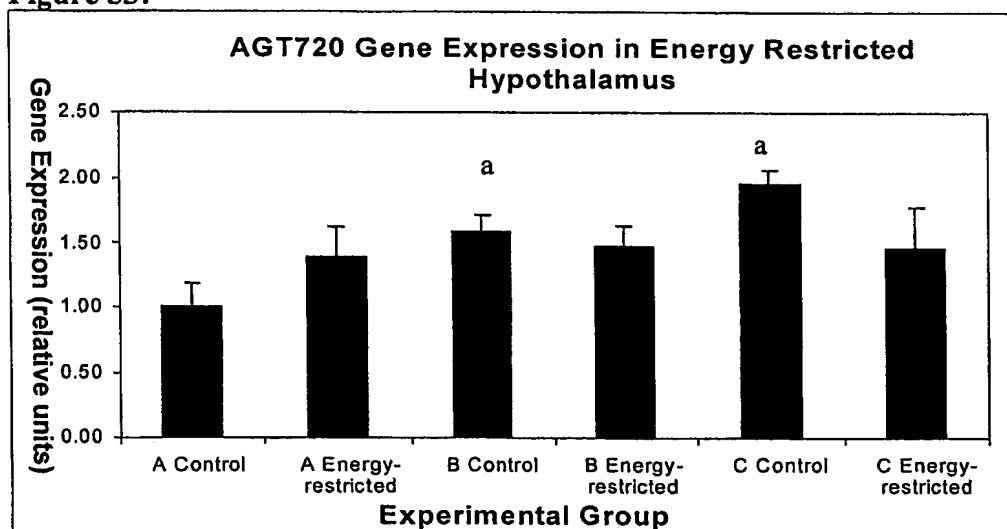
a: Fed > Fasted ($p=0.007$)

Figure 52:



a: Fed > Fasted ($p=0.047$)

Figure 53:



a: $p < 0.05$, significant increase in the hypothalamus of B and C control groups, when compared with the A control group.

Figure 54:

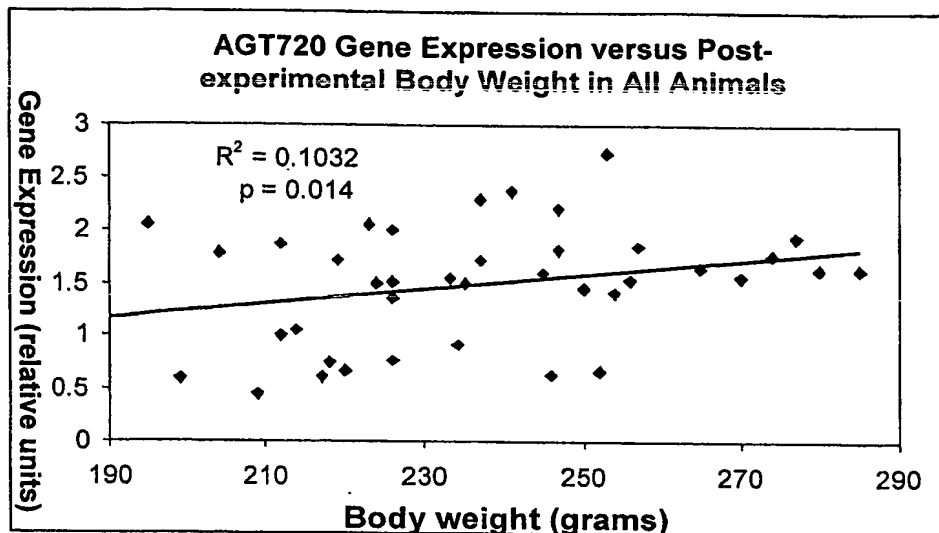


Figure 55:

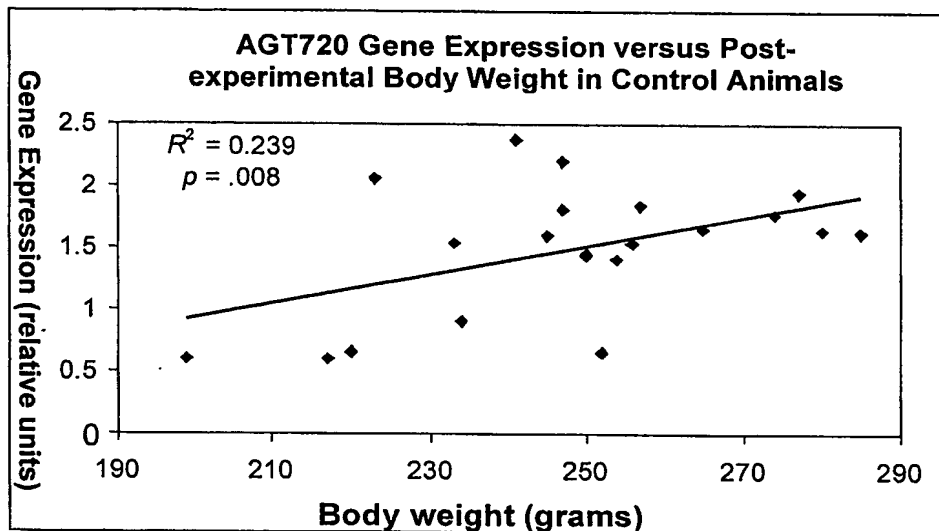


Figure 56:

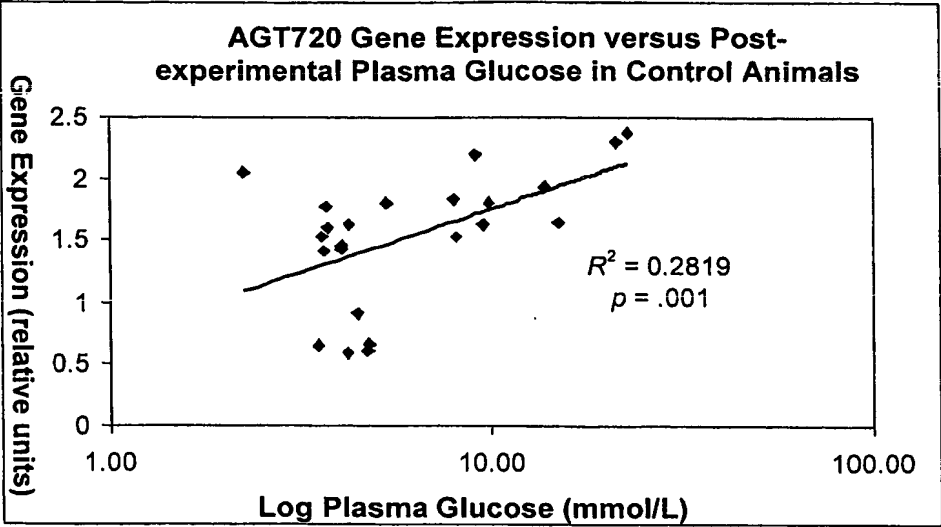
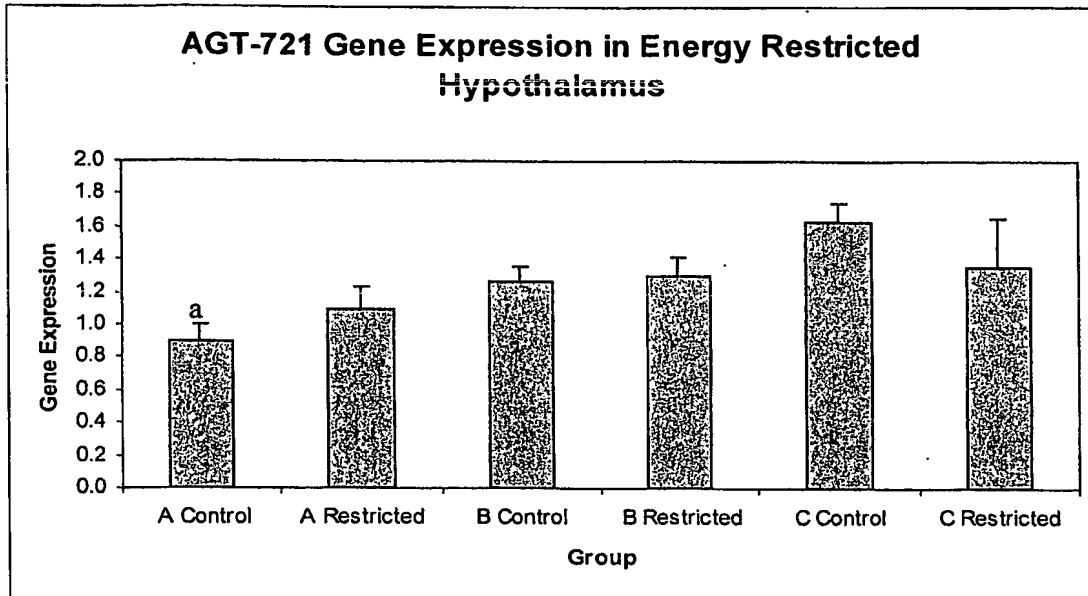


Figure 58:



a: $p < 0.001$ vs C control

Figure 59:

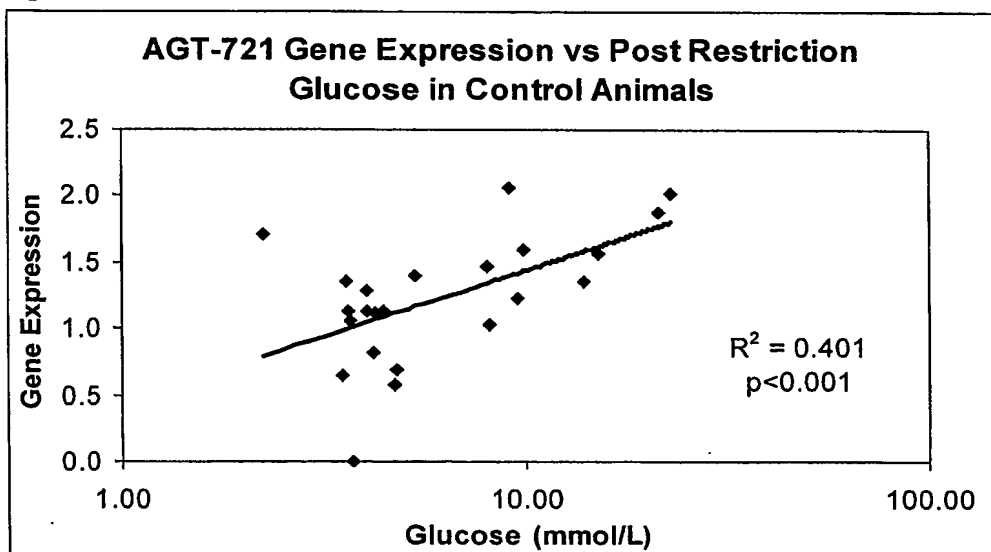


Figure 60:

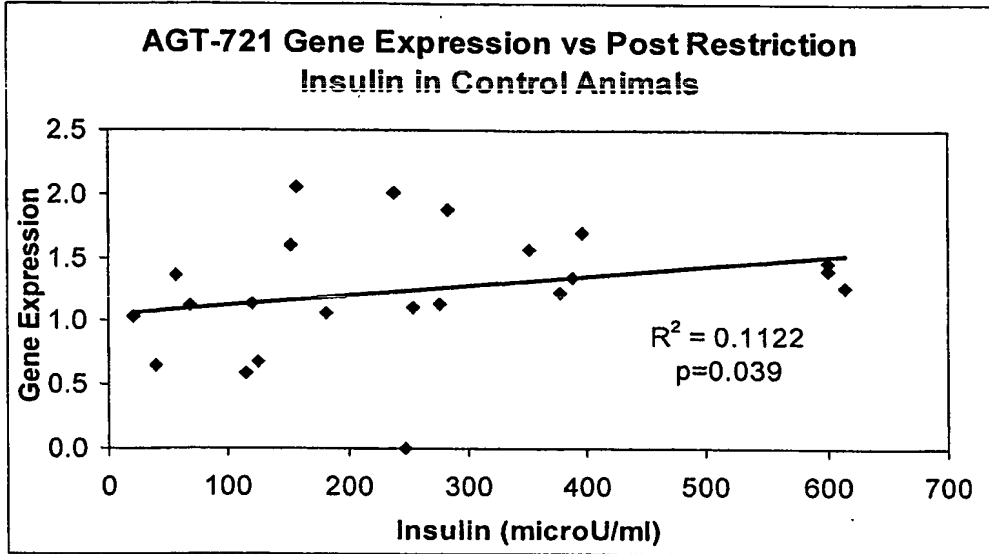
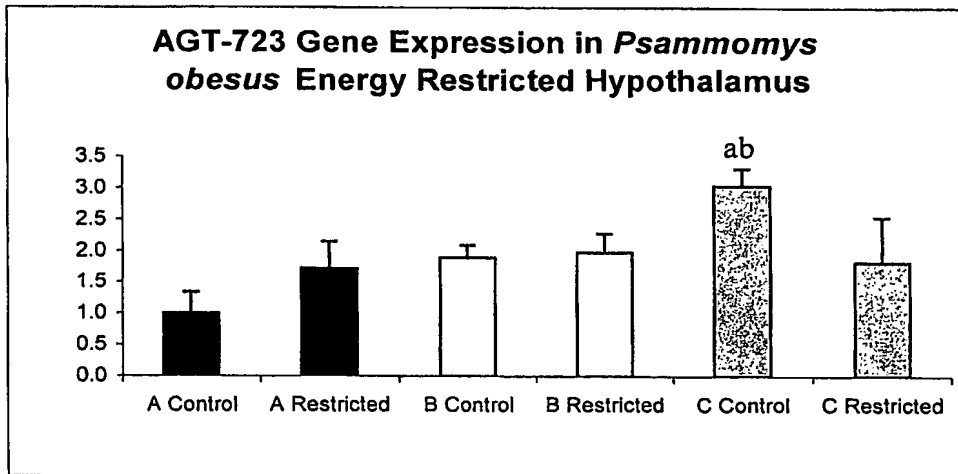


Figure 61:



a: AGT-723 gene expression significantly higher ($p=0.005$) in C Control animals when compared to A Control.

b: AGT-723 gene expression significantly higher ($p=0.042$) in C Control animals when compared to B Control.

Figure 62:

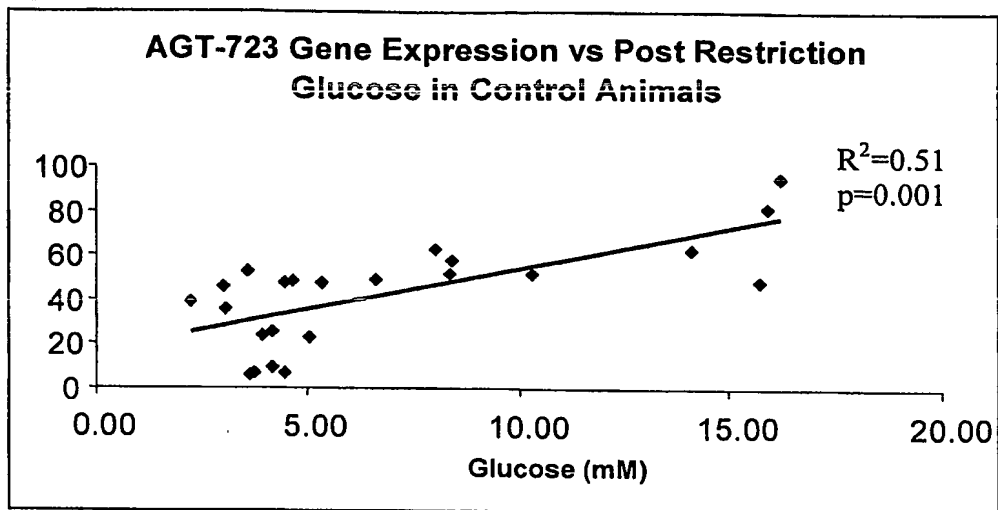


Figure 63:

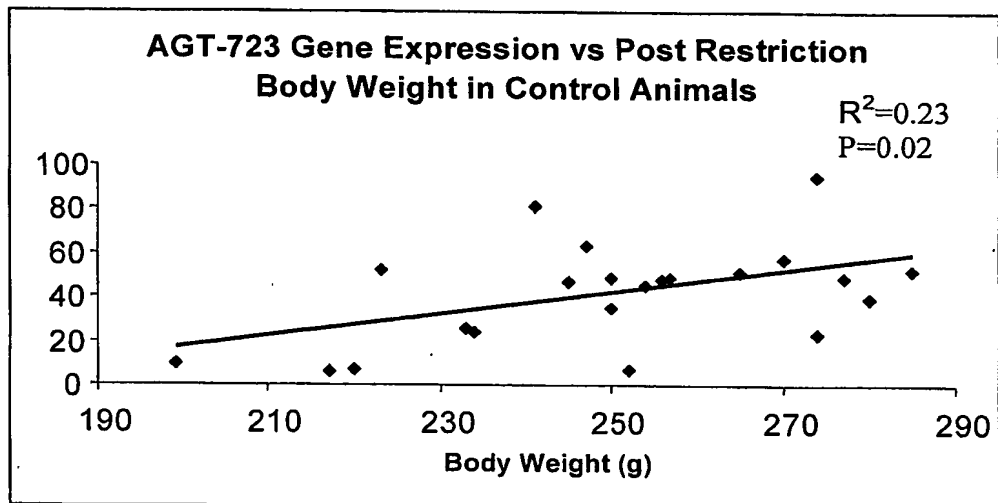


Figure 64:

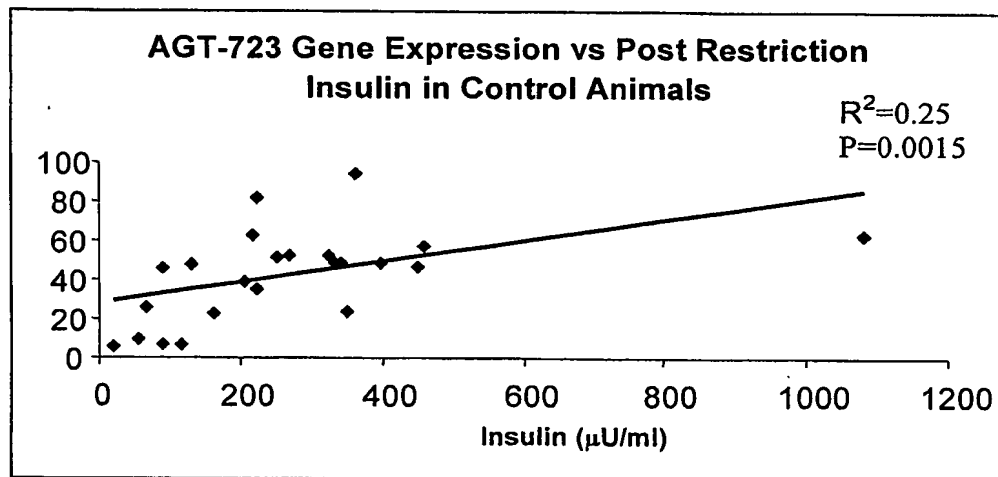


Figure 65:

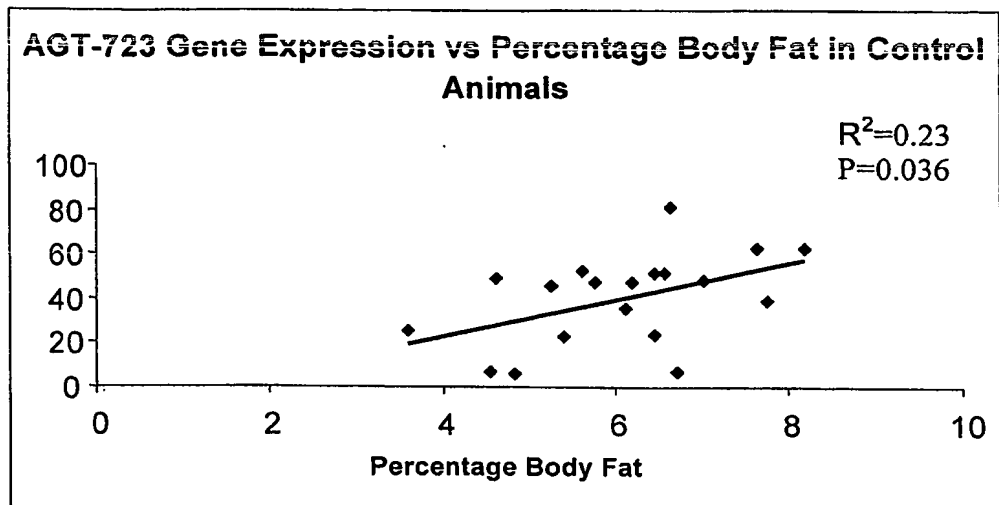


Figure 66:

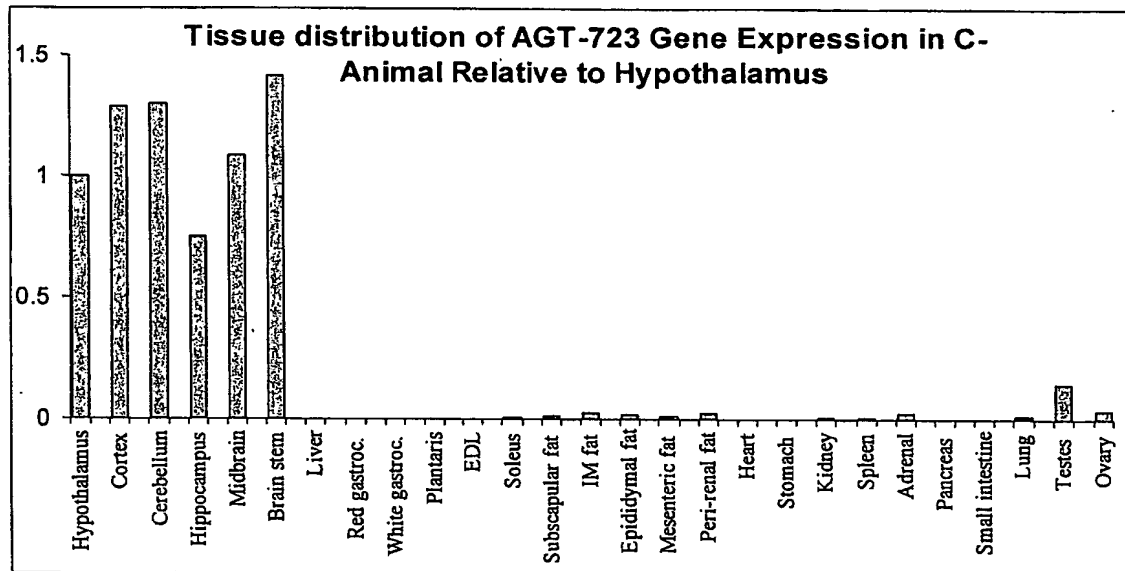
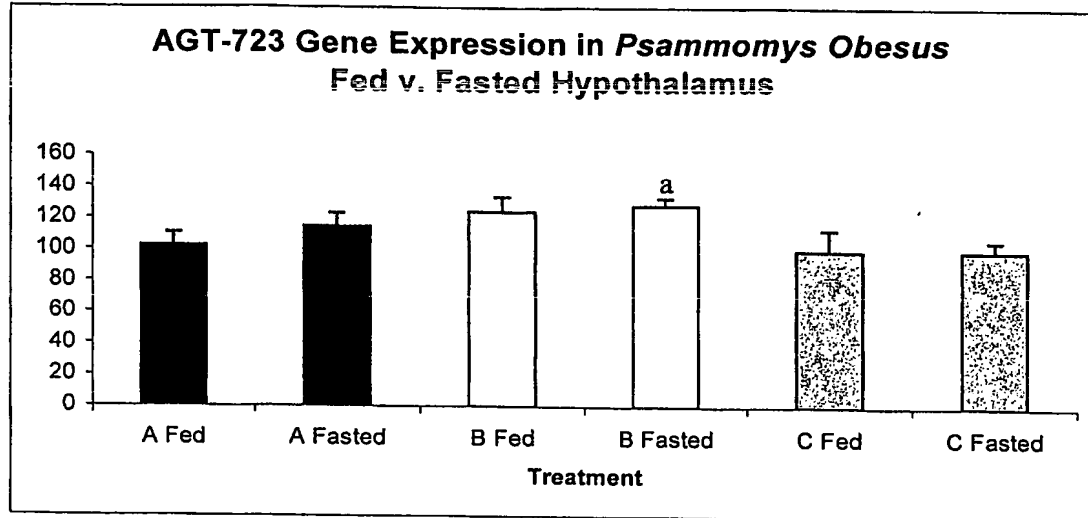


Figure 67:

a: Hypothalamic *Psammomys obesus* AGT-723 gene expression (fed/fasted study) significantly higher ($p=0.032$) in B Fasted animals when compared to C Fasted animals.

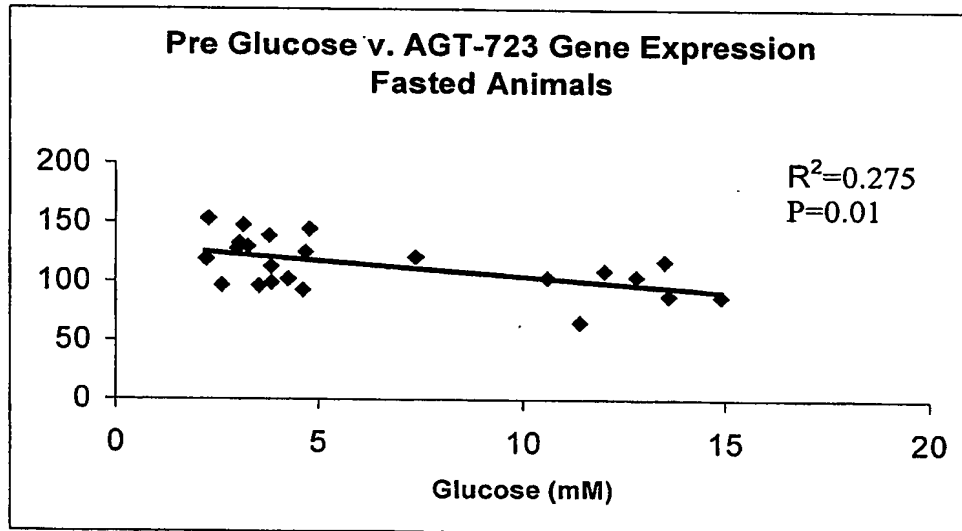
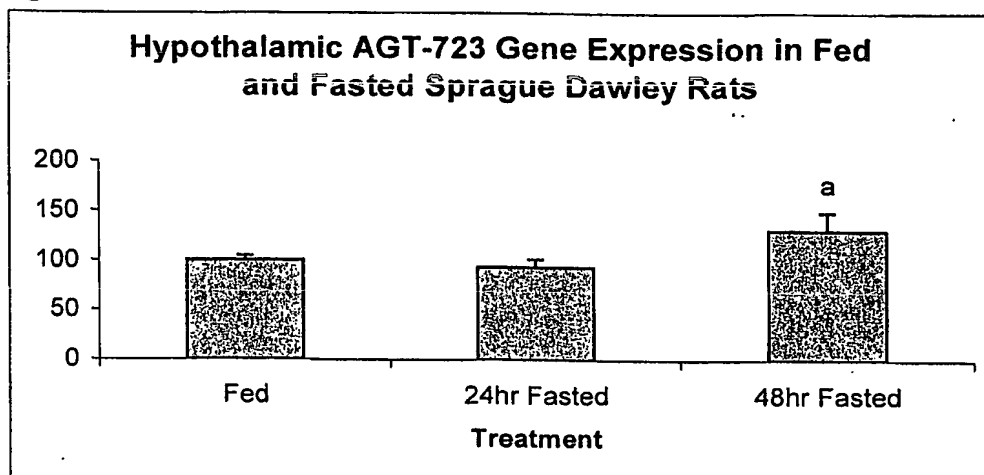
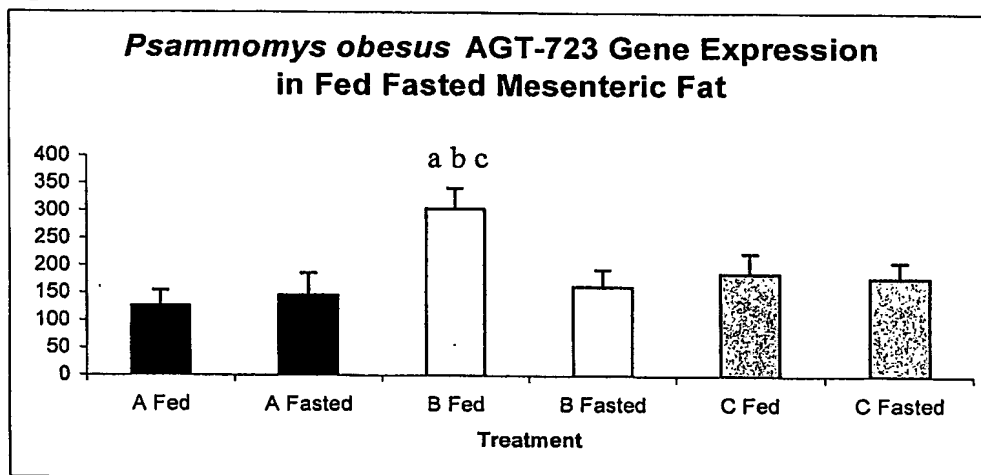
Figure 68:

Figure 69:



a: Sprague Dawley rat hypothalamic AGT-723 gene expression (fed/fasted study) is significantly higher ($p=0.043$) in 48hr fasted animals when compared to 24hr fasted animals

Figure 70:



a: Mesenteric fat *Psammomys obesus* AGT-723 gene expression (fed/fasted study) significantly higher ($p=0.001$) in B Fed animals when compared to A Fed animals.
 b: Mesenteric fat *Psammomys obesus* AGT-723 gene expression (fed/fasted study) significantly higher ($p=0.005$) in B Fed animals when compared to B Fasted animals.
 c: Mesenteric fat *Psammomys obesus* AGT-723 gene expression (fed/fasted study) significantly higher ($p=0.022$) in B Fed animals when compared to C Fed animals.

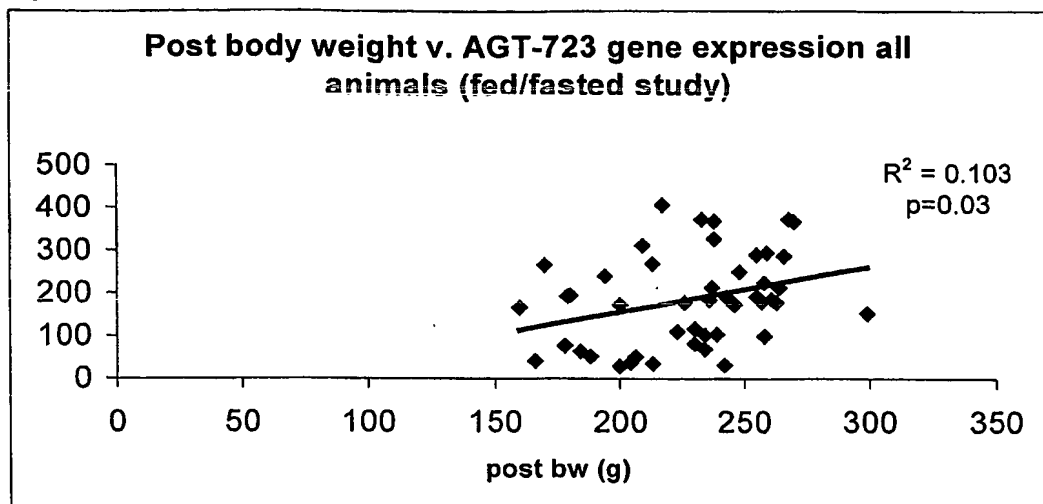
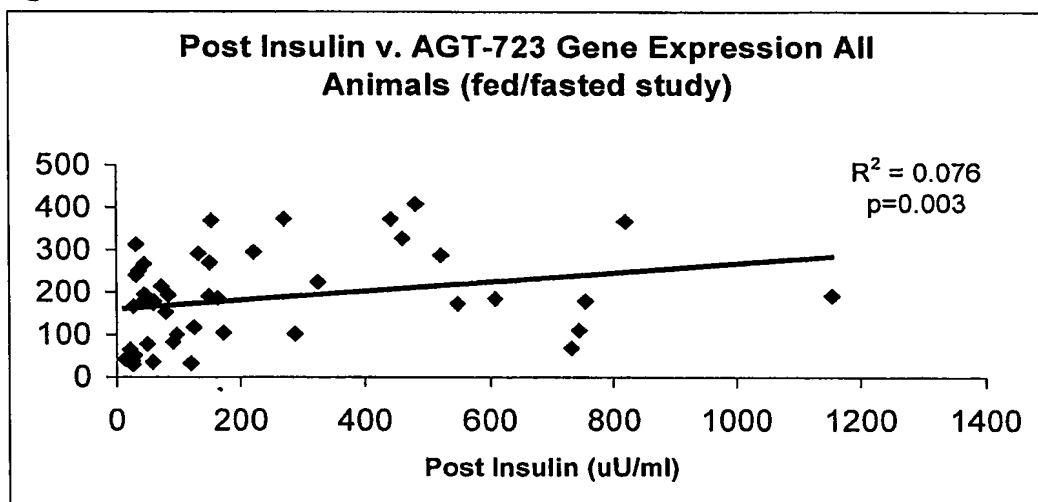
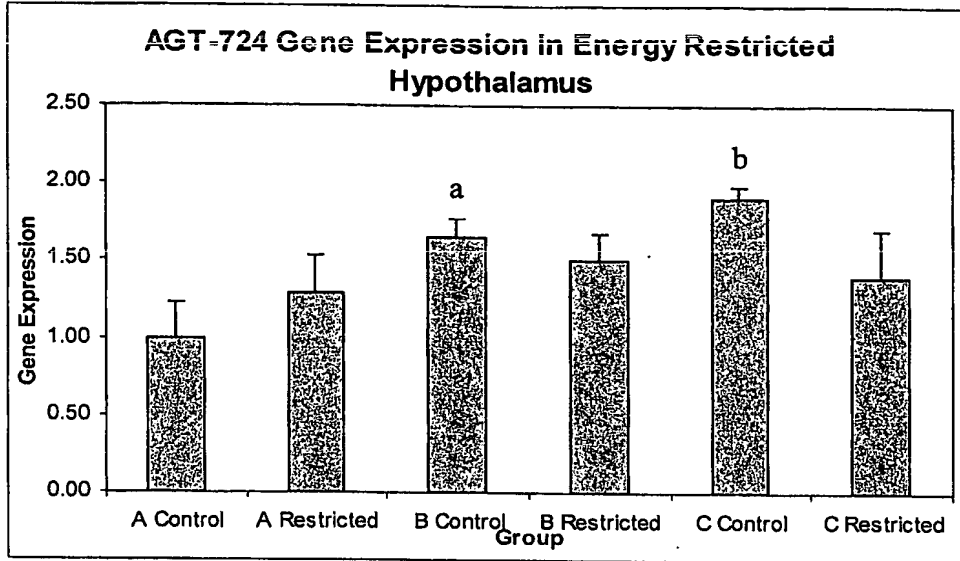
Figure 71:**Figure 72:**

Figure 73:

a,b: Gene expression was significantly lower in A controls when compared to B controls ($p=0.033$) and C controls ($p=0.004$)

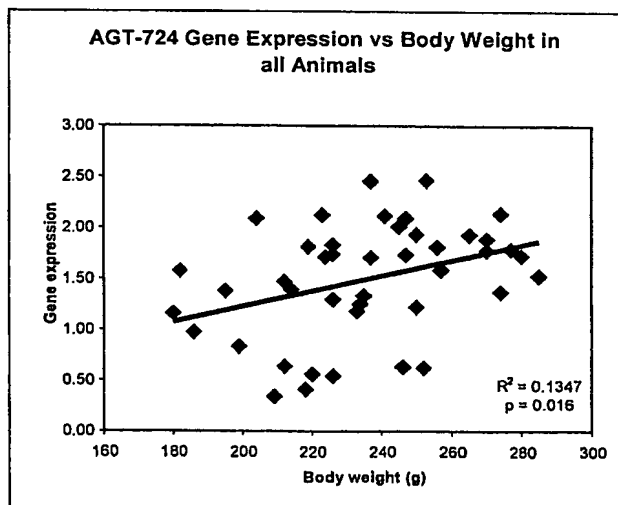
Figure 74:

Figure 75:

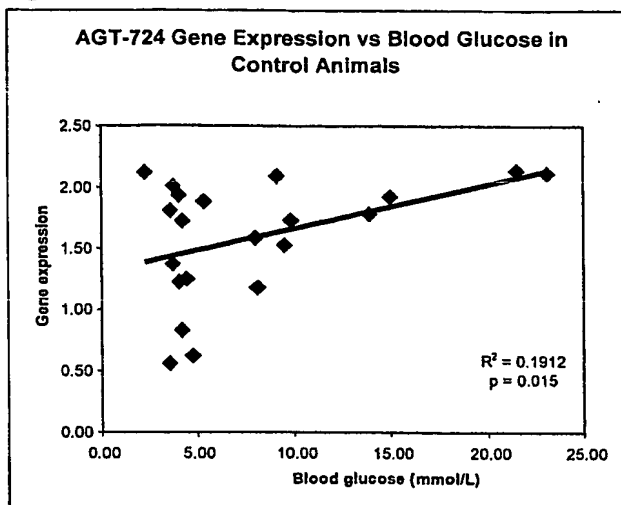
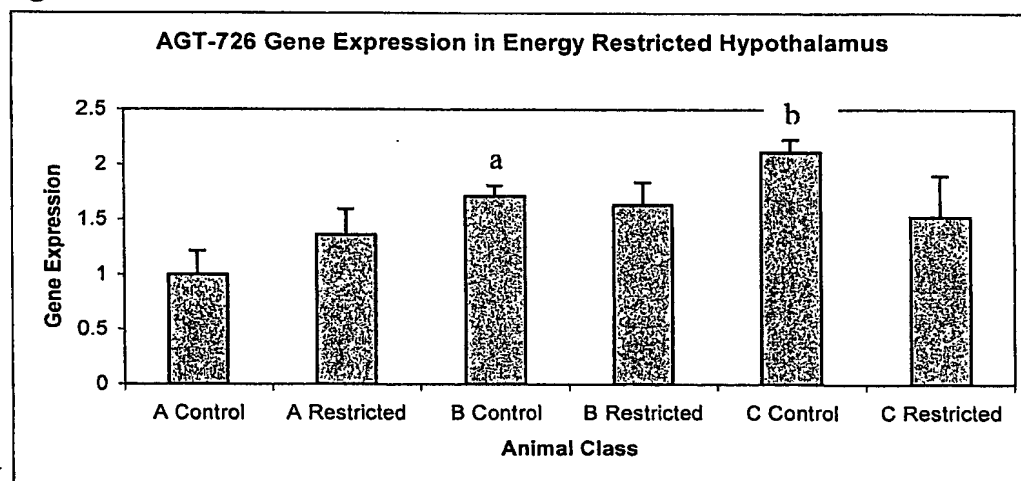


Figure 76:



a: $p=0.024$ compared to A control

b: $p=0.001$ compared to A control

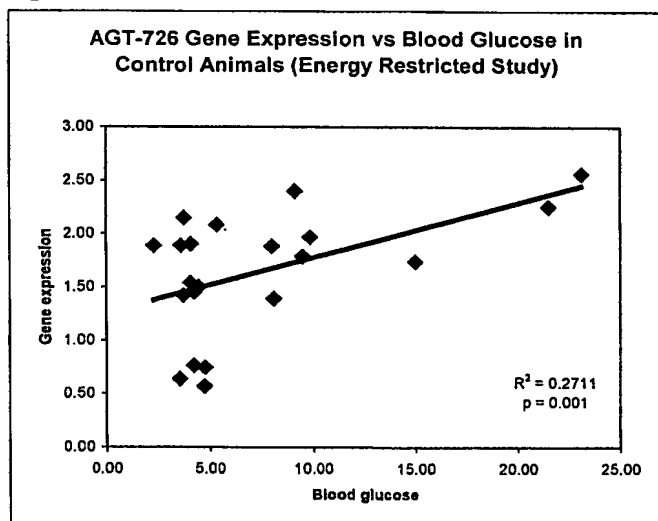
Figure 77:**Figure 78:**

Figure 79:

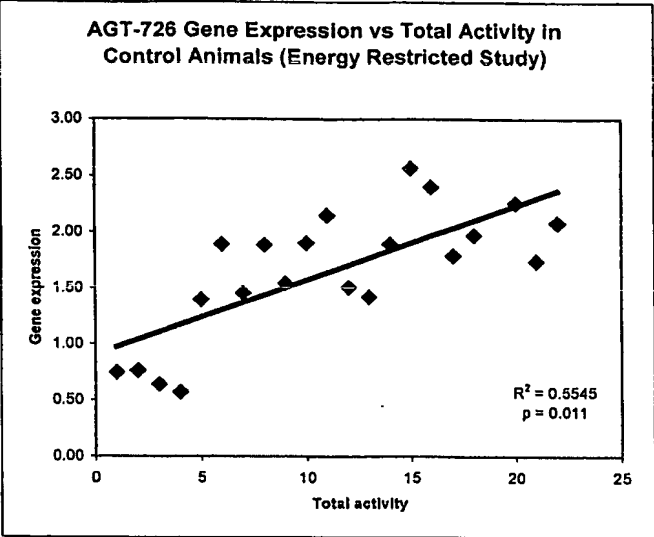


Figure 80:

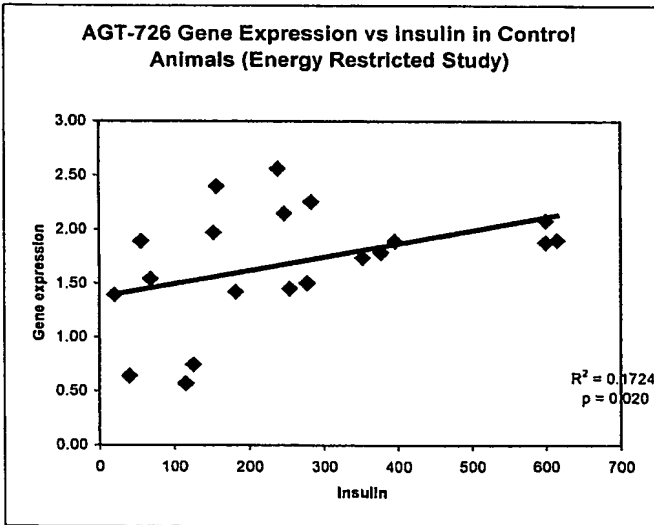


Figure 81:

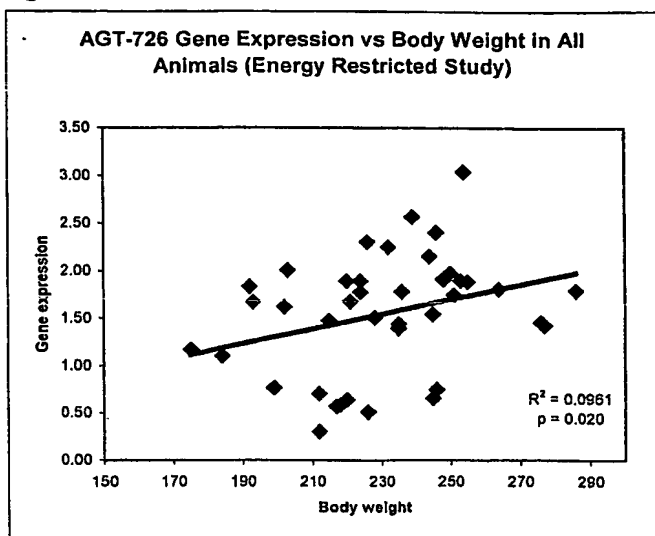


Figure 82:

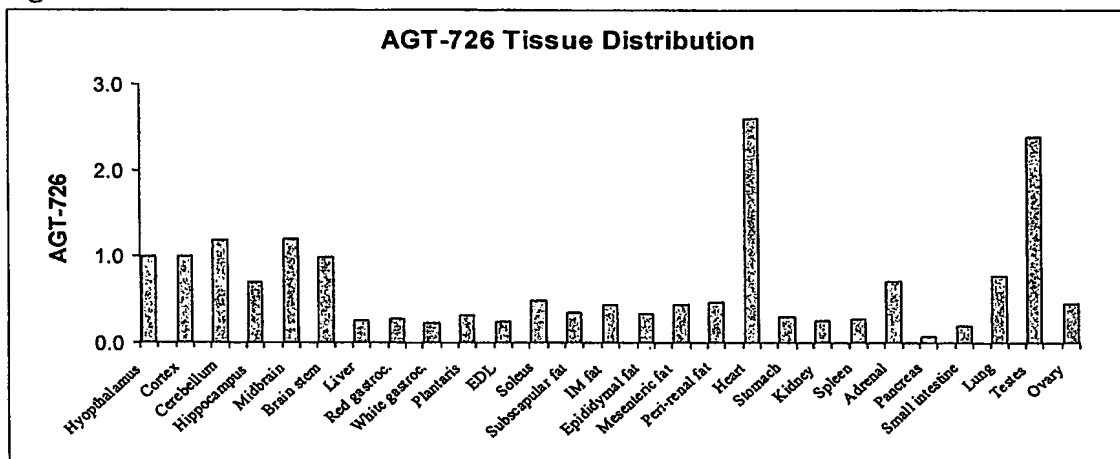
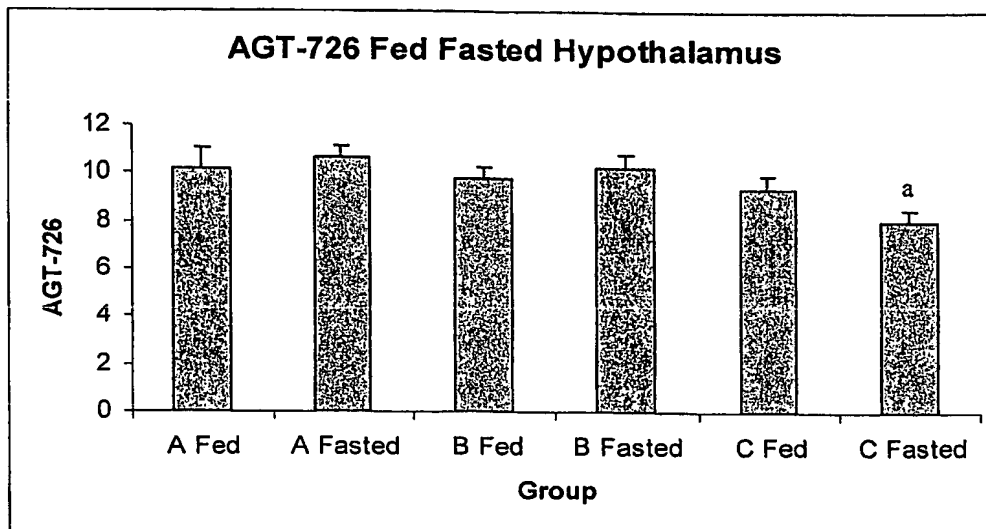
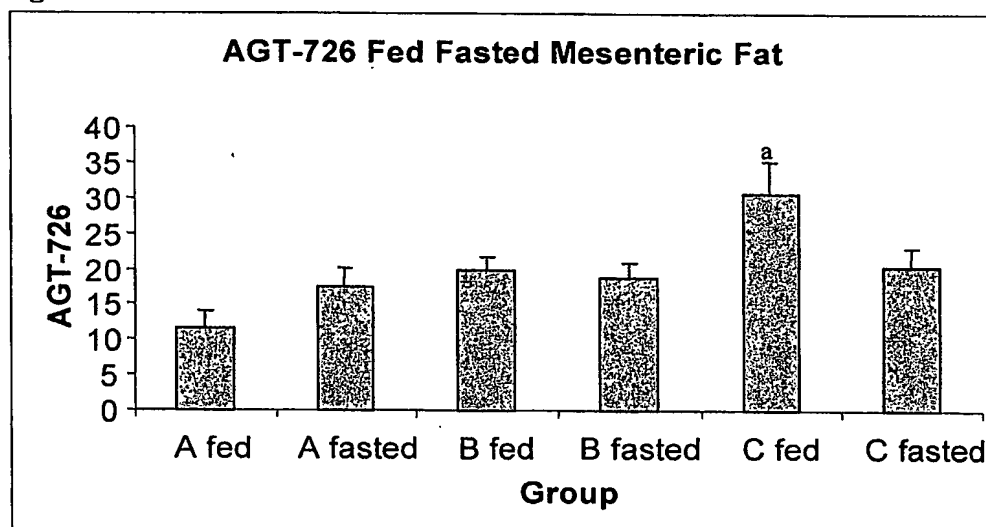


Figure 83:



a: $p=0.003$ compared to A fasted; $p=0.013$ compared to B fasted.

Figure 84:



a: $p<0.013$ compared to A fed, B fed and C fasted animals.

Figure 85:

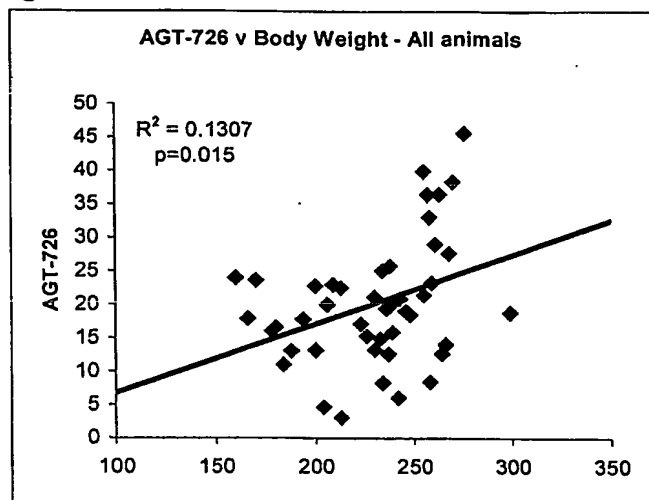


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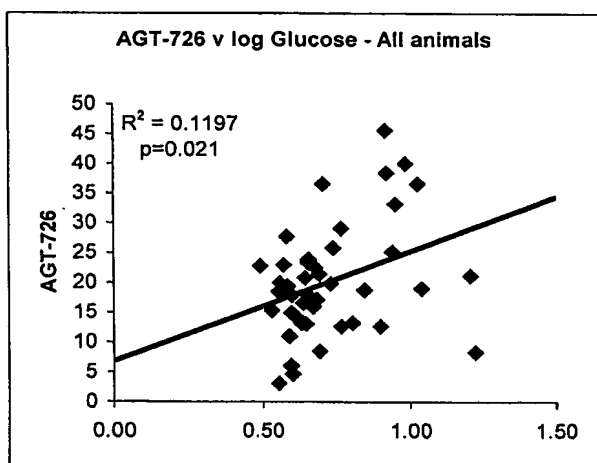


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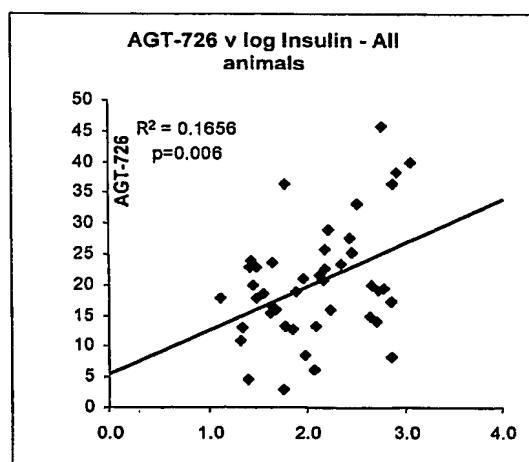
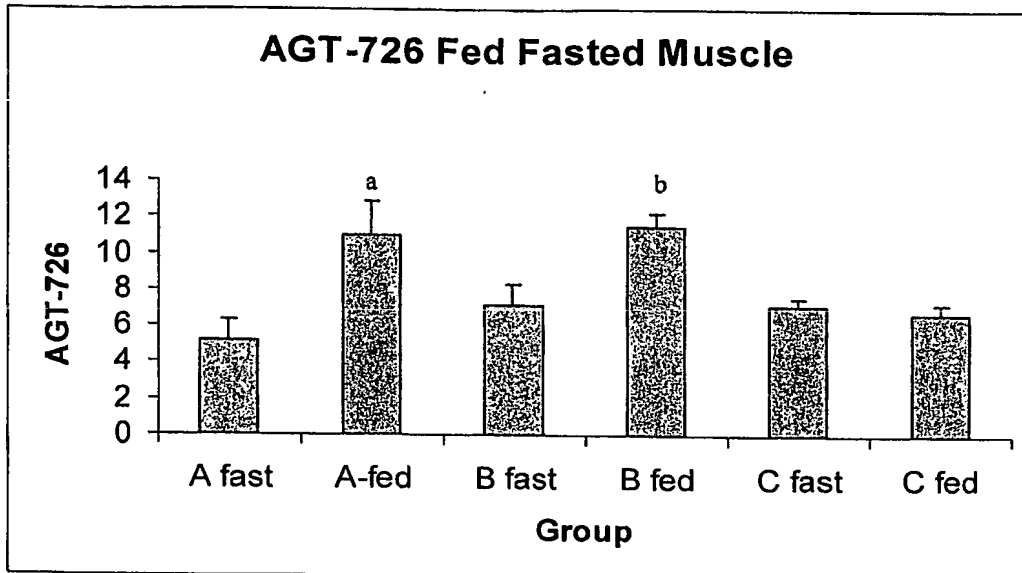


Figure 88:



a: $p=0.018$ (A fed) compared to C fed.

b: $p=0.002$ (B fed) compared to C fed.

Figure 89:

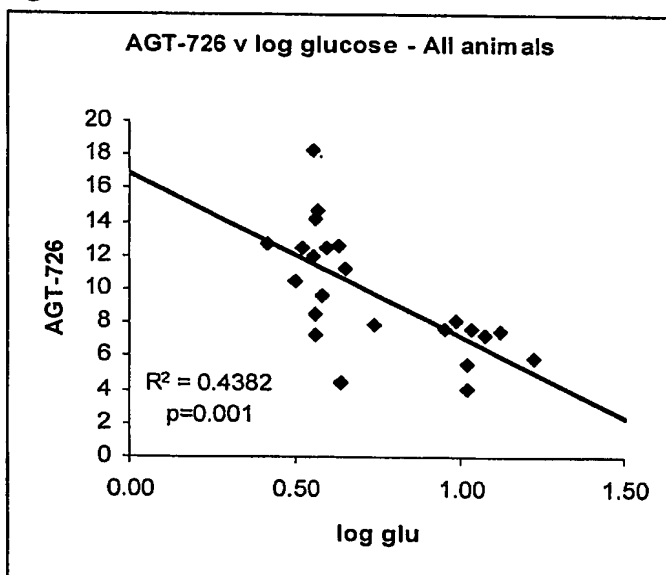
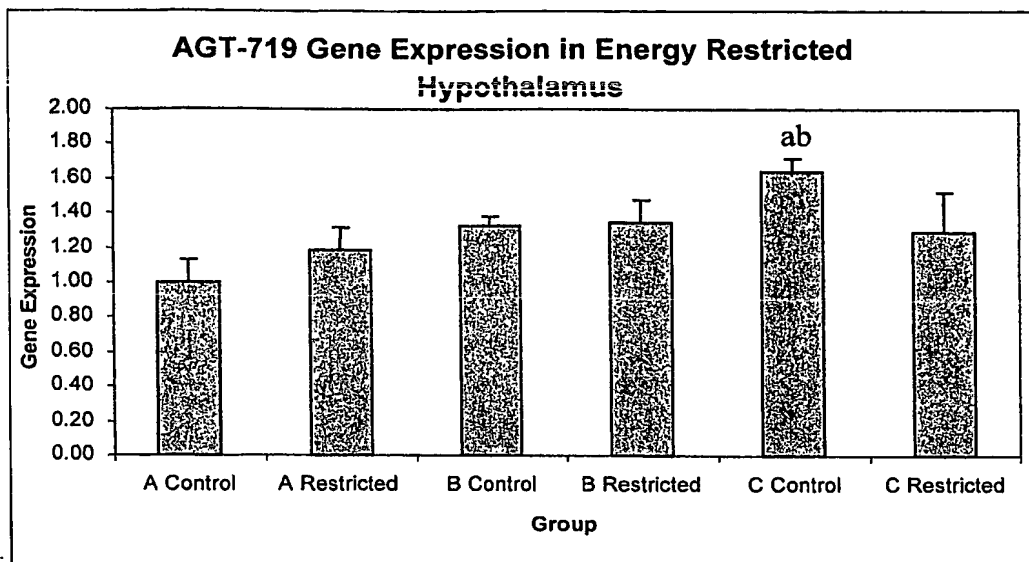


Figure 90:



a: $p=0.022$, A control < C control

b: $p=0.040$, B control < C control

Figure 91:

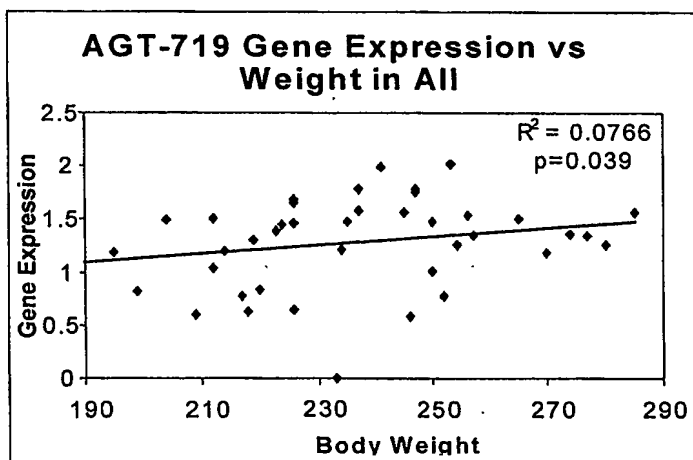


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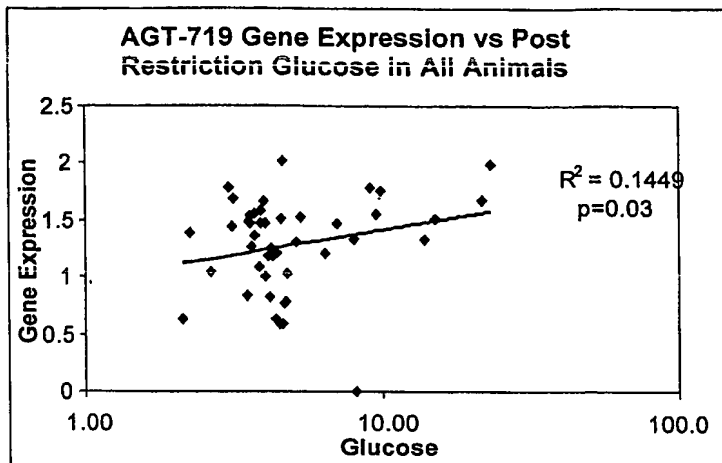


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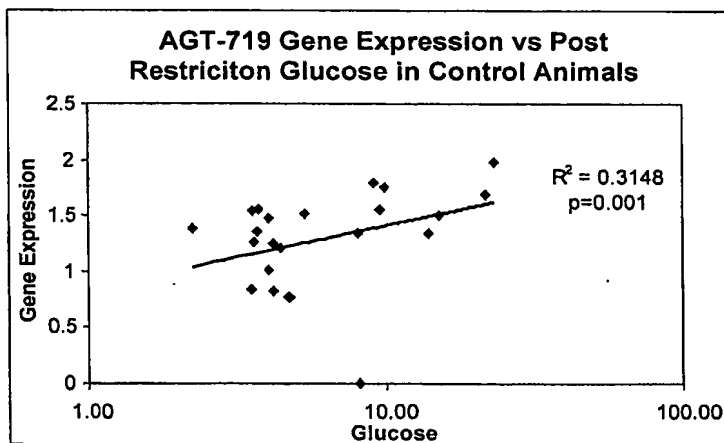


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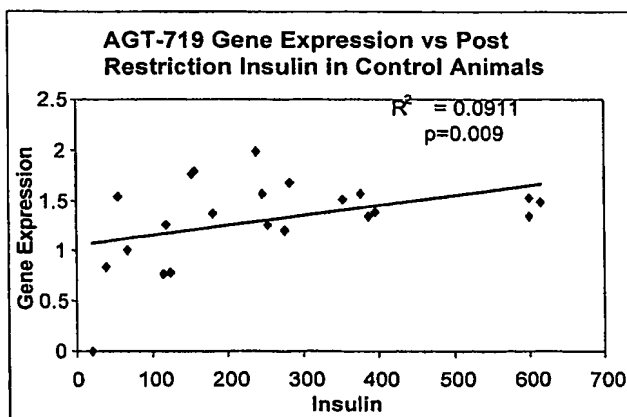


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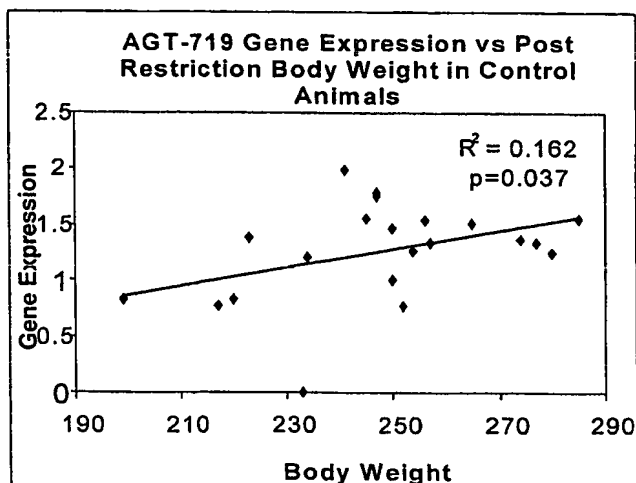


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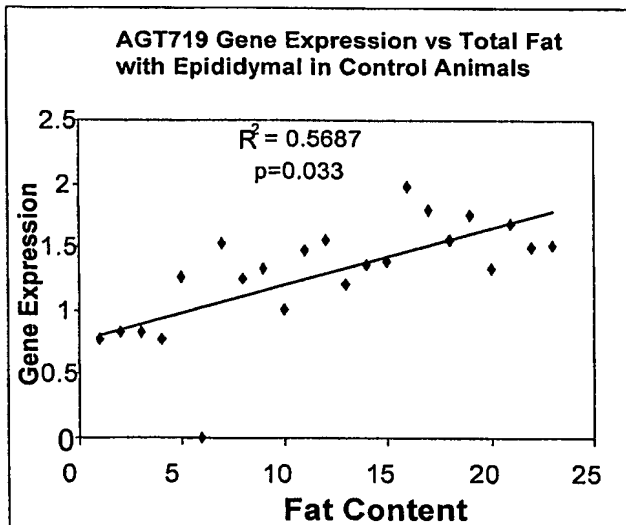


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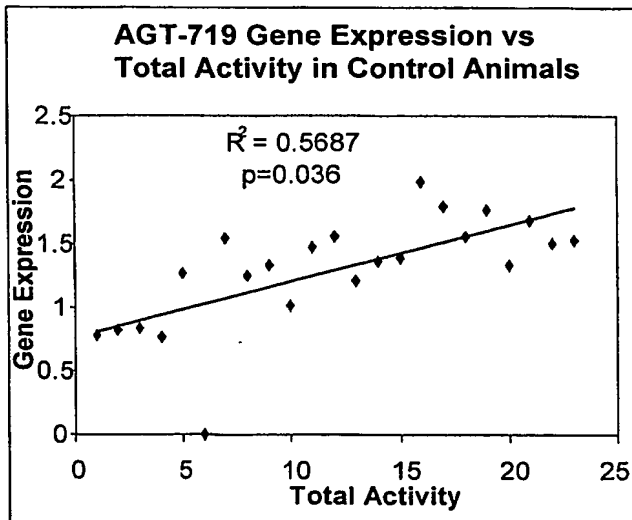
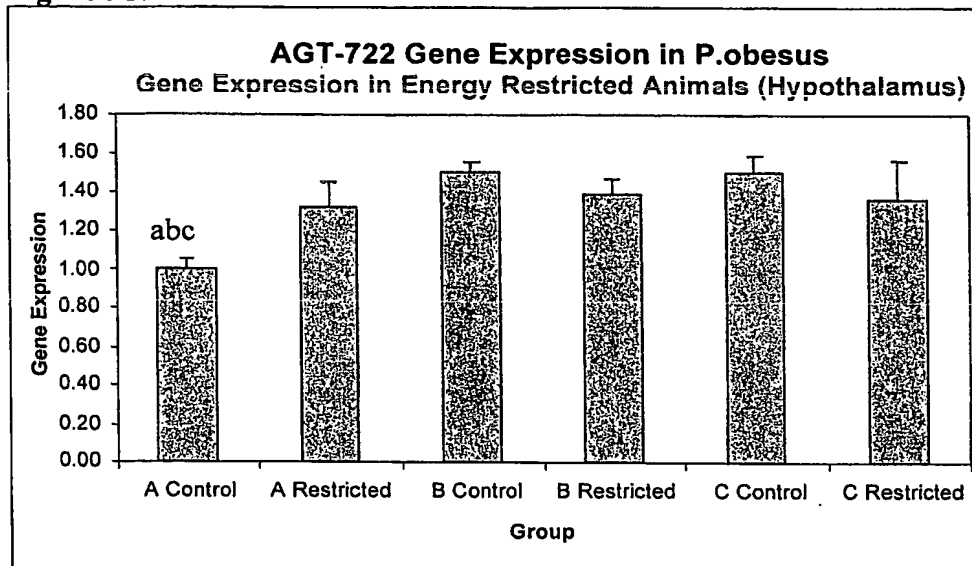
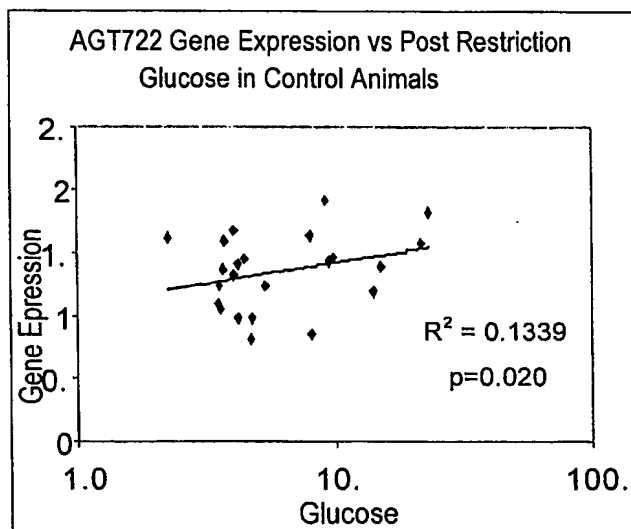
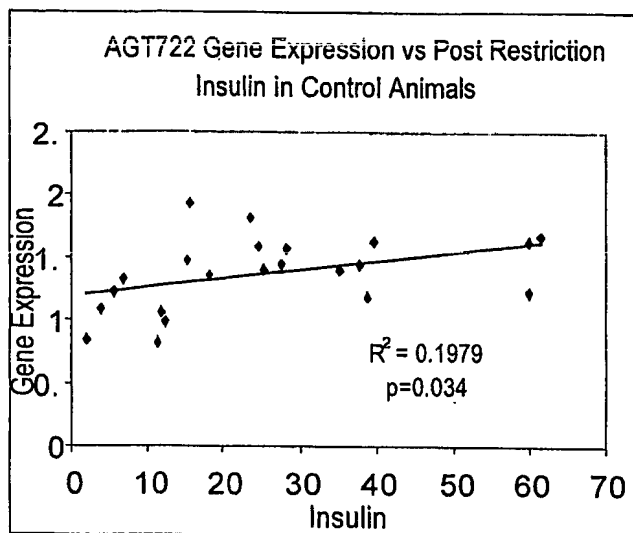


Figure 98:

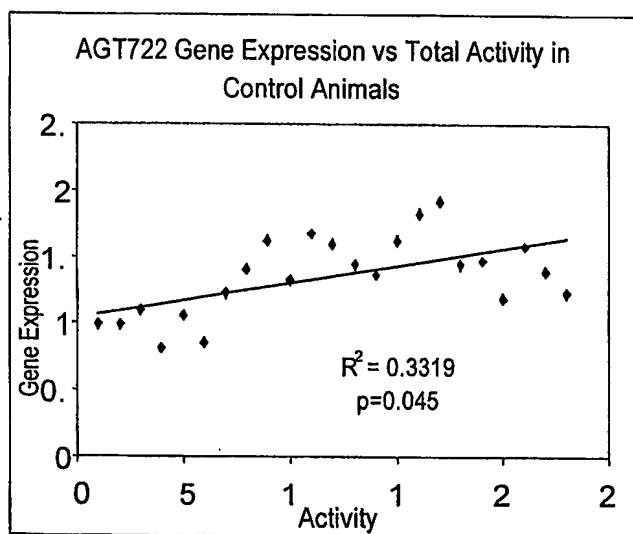
- a: Gene expression significantly lower in A control animals compared to B control animals ($p=0.002$).
- b: Gene expression significantly lower in A control animals compared to C control animals ($p=0.002$).
- c: Gene expression significantly lower in A control animals compared to A restricted animals ($p=0.038$).

Figure 99:

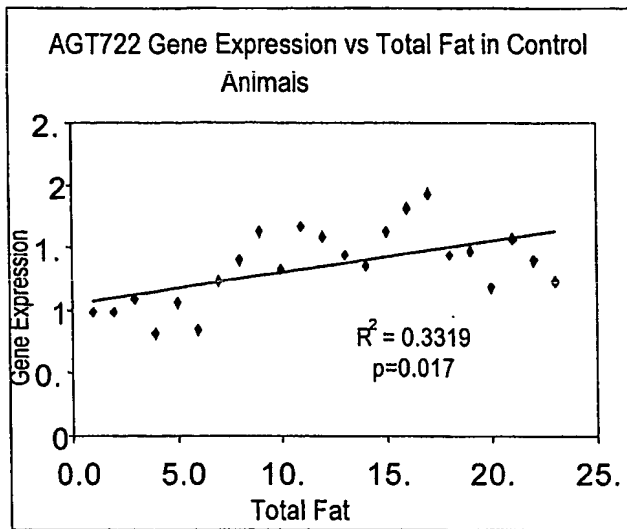
Gene expression positively correlated with post restriction glucose ($p=0.020$) in control animals.

Figure 100:

Gene expression positively correlated with post restriction insulin ($p=0.034$) in control animals.

Figure 101:

Gene expression positively correlated with total activity ($p=0.045$) in control animals.

Figure 102:

Gene expression positively correlated with total fat ($p=0.017$) in control animals.

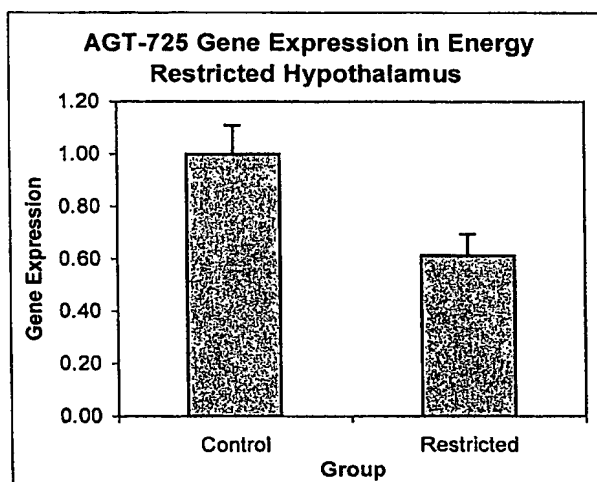
Figure 103:

Figure 104:

a: AGT-725 gene expression significantly lower in A controls when compared to C controls ($p = 0.012$)

b: gene expression significantly lower in C controls when compared to C energy restricted ($p=0.012$)

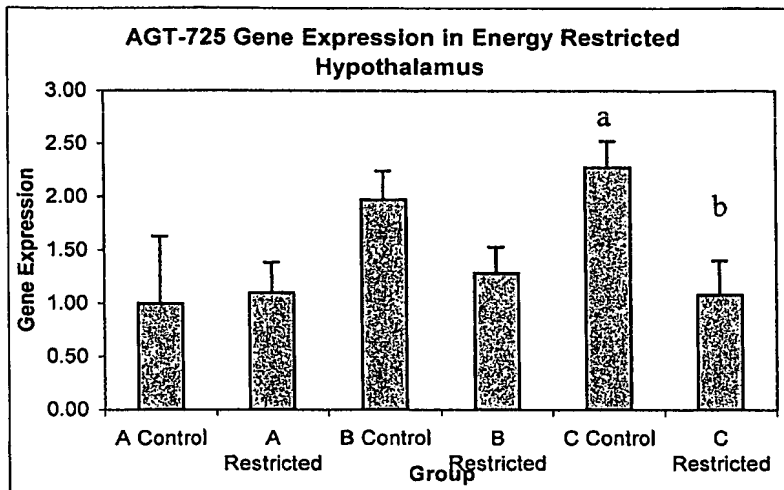


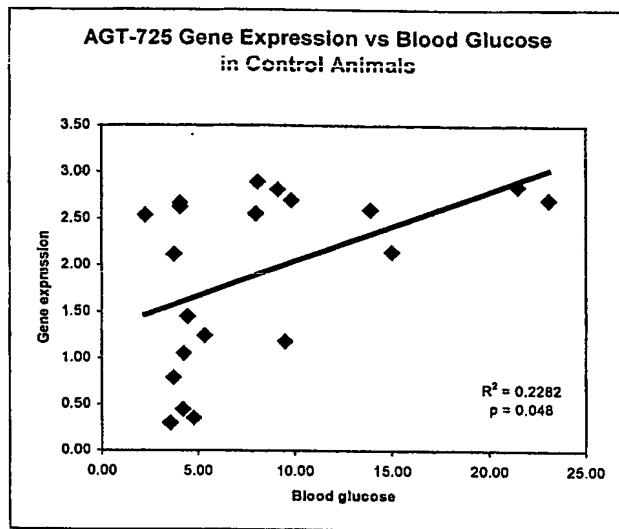
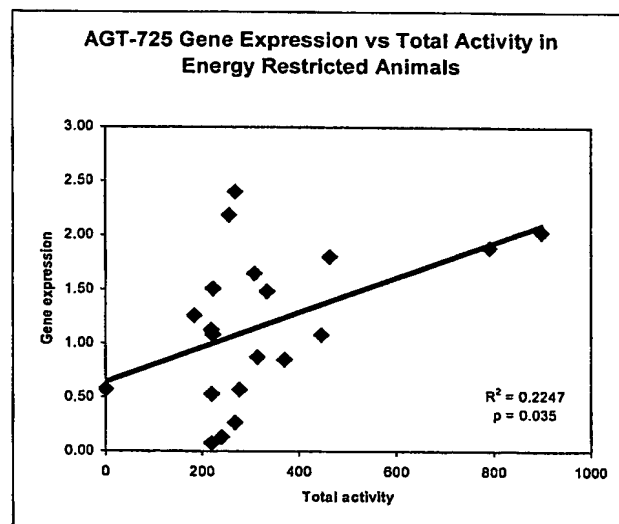
Figure 105:**Figure 106:**

Figure 107: AGT-717 gene expression in all fed versus all fasted animals; * $p=0.049$ compared to fed animals.

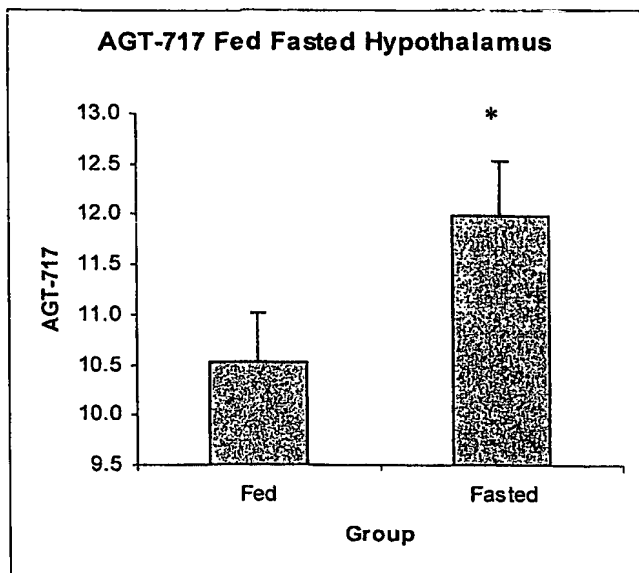


Figure 108: Linear association between AGT-717 and glucose in red gastrocnemius muscle of *P. obesus* fasted for 24 hr.

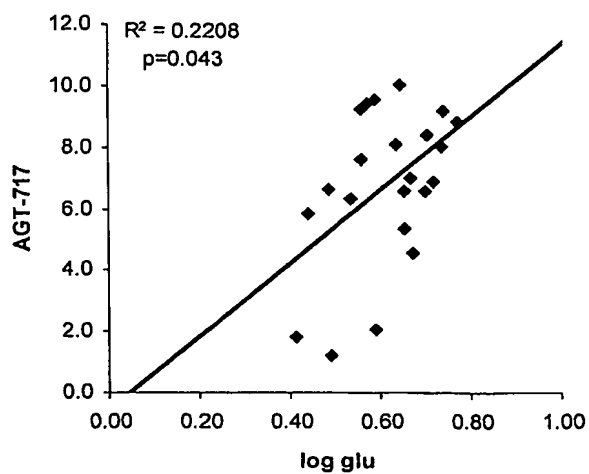


Figure 109: AGT-717 gene expression in mesenteric fat of fed and 24 hr fasted P. obesus; * $p < 0.034$ compared to group A fed.

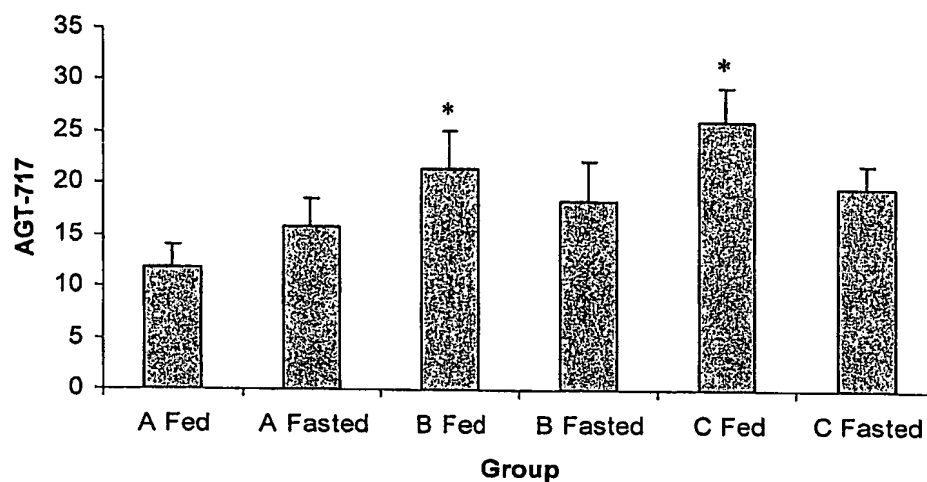


Figure 110: Linear associations of AGT-717 gene expression in mesenteric fat with body weight and insulin values in all animals.

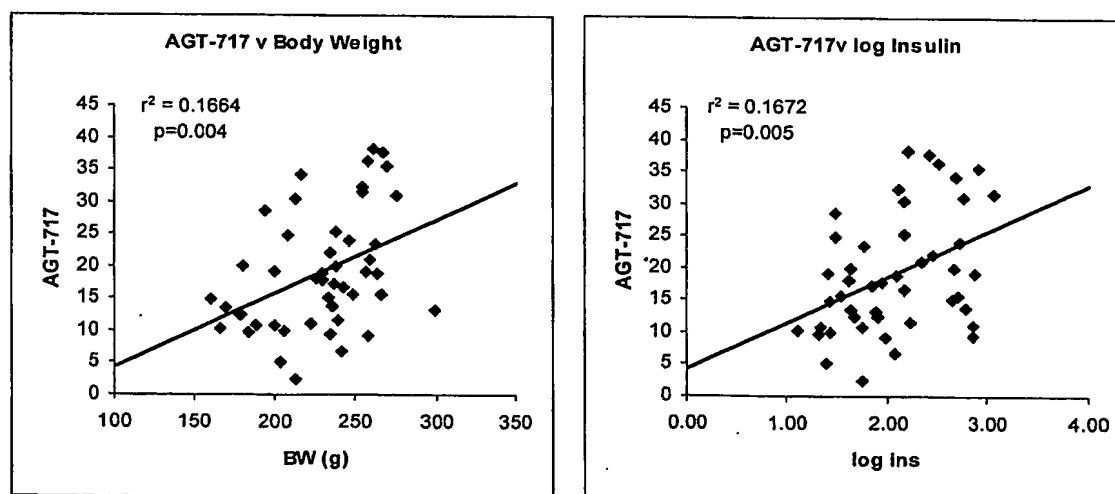


Figure 111: AGT-717 gene expression in 3T3 cells treated with insulin for 24 hrs,
* $p < 0.01$ compared to 0 nM, 0.1 nM and 1 nM groups.

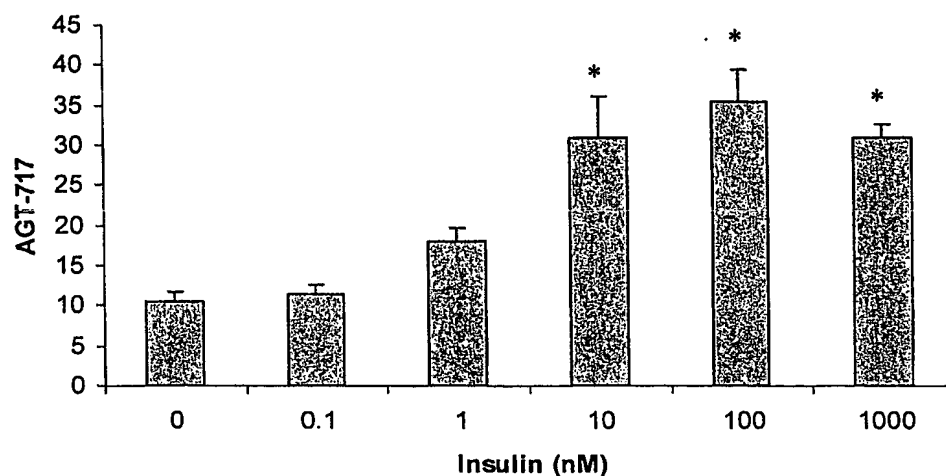
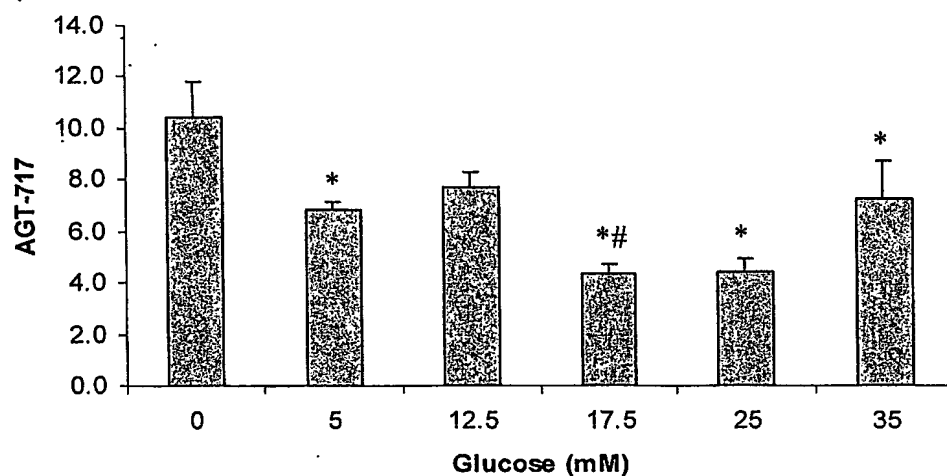


Figure 112: AGT-717 gene expression in 3T3 cells treated with glucose for 24 hr,
* $p < 0.05$ compared to 0 mM; # $p = 0.024$ compared to 12.5 mM.



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